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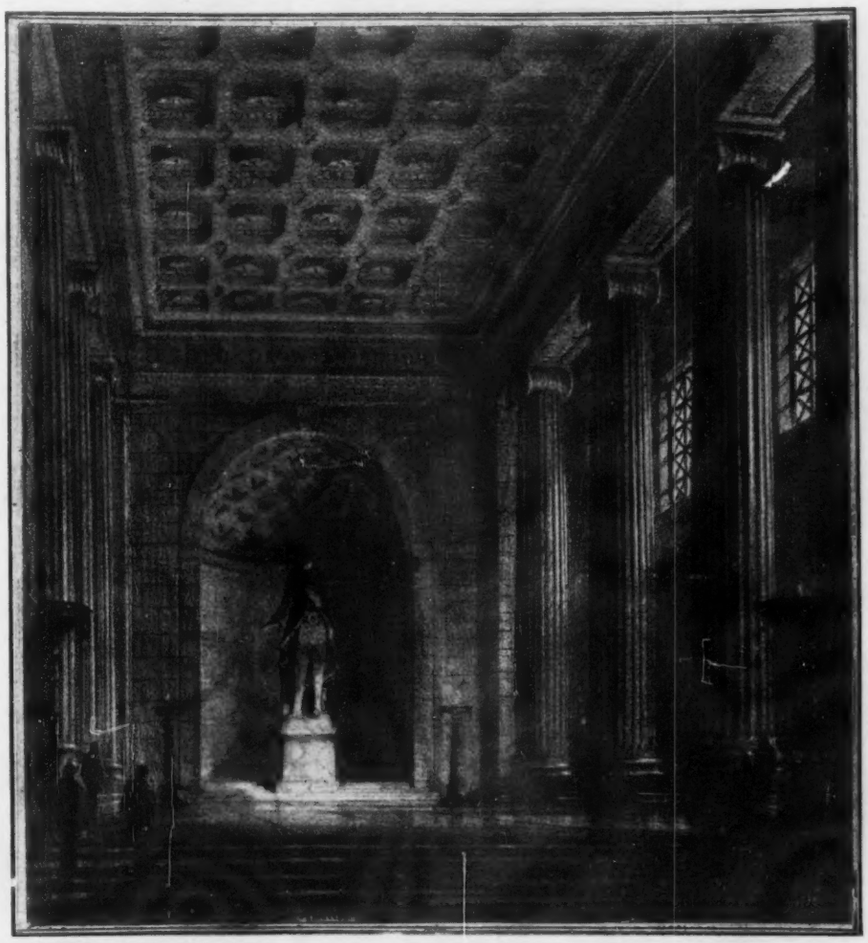

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Crayon Drawing by Hugh Ferriss. Grand Hall of Proposed George Washington National Memorial, Alexandria, Va. Helmle & Corbett, Architects.

NOVEMBER 1922

VOL. III
ONE DOLLAR
A YEAR

Published Monthly by
The PENCIL POINTS PRESS, Inc.
Publication Office—Stamford, Conn.
Editorial and Advertising Offices—19 East 24th Street, New York

NO. 11
FIFTEEN CENTS
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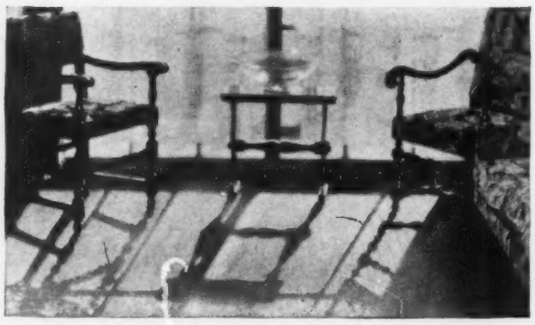
In This Issue : —Otto R. Eggers on Rendering; Emil Mlinar on Motion Picture Theatre Design; Otto Gaertner on Garage Design; John F. Harbeson on Indication. Plates:—Antique from D'Espouy; Pencil Sketch by Vernon Howe Bailey; Drawing by Kenneth Conant; Figure Study by Kenyon Cox.



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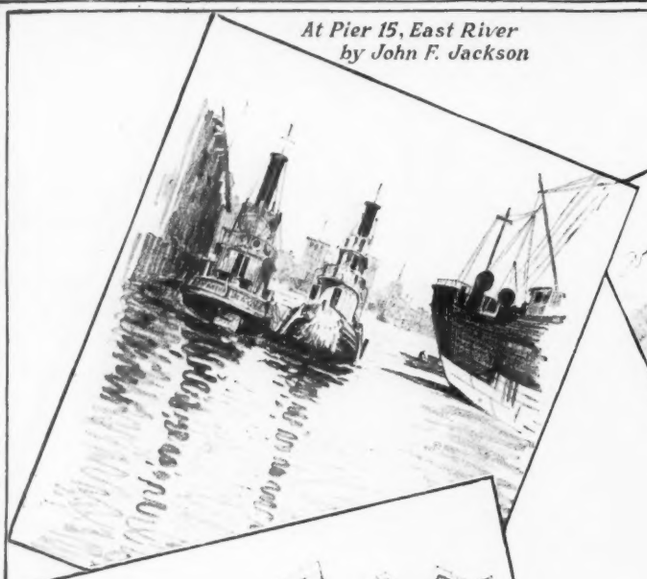
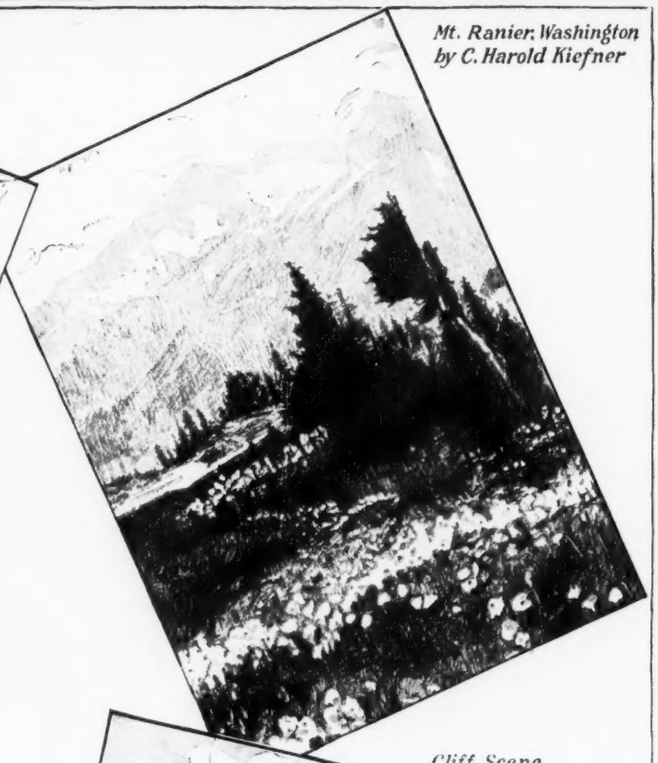
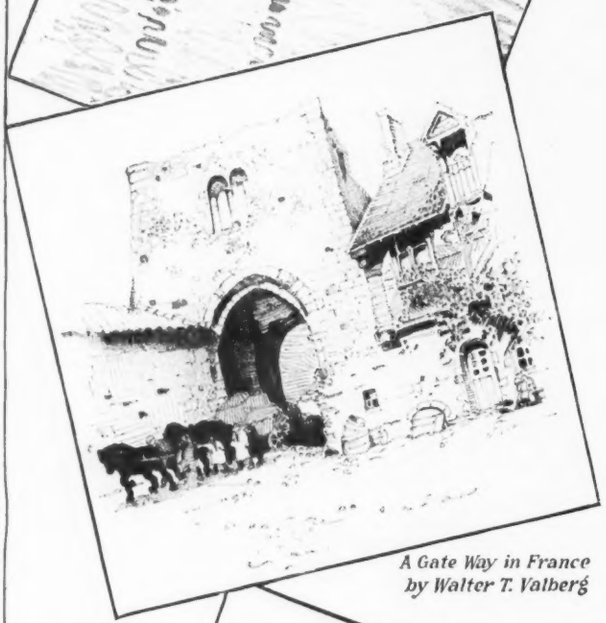


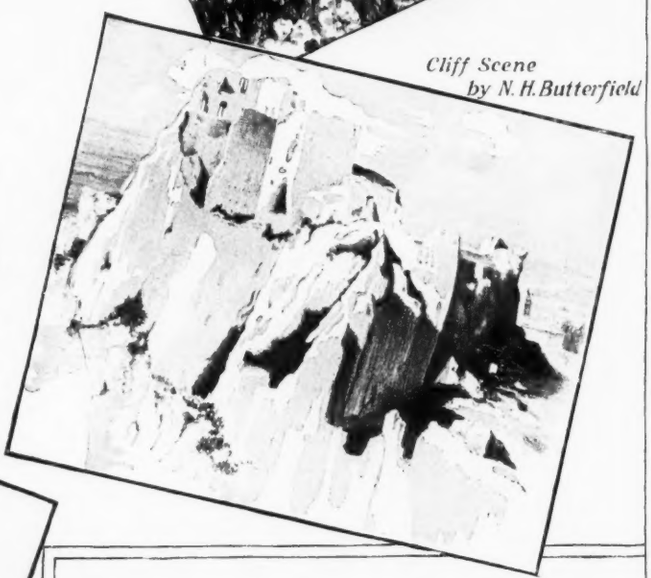
At Pier 15, East River
by John F. Jackson



Mt. Ranier, Washington
by C. Harold Kiefner



A Gate Way in France
by Walter T. Valberg



Cliff Scene
by N. H. Butterfield

A Study
by Hugh Mc. Clean Poe

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VOLUME III NOVEMBER 1922 NUMBER 11

A MESSAGE FROM GROMORT

THE fact that M. Georges Gromort's book on Italian Renaissance architecture has now been translated into English impels us to devote this page to an appreciation of his work, in the belief that calling the attention of our readers to the translation is the best use we can make of the space usually devoted to an editorial.

This book contains a vitalizing message for the architect and the architectural student. It stirs one and gives greater power. It deepens, organizes and clarifies one's understanding of the meaning of architecture. If reading it does not make a man a better architect, we believe he must be either perfect or hopeless.

This book is much broader than its title "Italian Renaissance Architecture." While discussing the Renaissance the author makes clear the reasons for the general excellence of the work of the period under consideration and since these reasons are basic, points the way to the creation of architecture of the highest character today—not necessarily in the Renaissance manner.

M. Gromort is peculiarly well fitted to stimulate an appreciative interest in the spirit of architectural works. This sets his book apart from other scholarly, historical and descriptive works, and gives it special value.

There is somehow the quality of a spoken message from the author to each reader. This is so, perhaps, because M. Gromort prepared this work for his own pupils, men he knew and talked to. The translator, Mr. George Waters, himself an able artist, has preserved this quality while sympathetically turning into English M. Gromort's text.

As indicating the author's approach to his subject, we give below two quotations from the book. In speaking of the exaltation of personality which was one of the characteristics of the Renaissance period he says: "If one of the faults of our time, as Stendhal so bitterly complained, is an unfortunate propensity to disguise the tendencies and the passions which form the depth of our nature and constitute the only elements worthy of characterizing us, the men of the Renaissance on the contrary never hesitated to give free rein to these propensities, good or bad as they might be, and to cultivate carefully those likely to distinguish them from their neighbors. We do not have to inquire what such a conception is worth from a philosophical point of view; it is possible that sometimes it provoked men to debauchery and crime, but it is not to be doubted that, in developing sensibility, it produced very great artists. On the other hand it exalted good instincts to the same extent as evil ones, and it is probable that peoples, like works and individuals, are worth much more possessing a few qualities than lacking any defects."

Speaking of the charm possessed by many Renaissance buildings he says, in part: "From the three marble steps by which one reaches the portico of the Libreria Vecchia to the topmost mouldings of the balustrade which crowns its brilliant cornice, there is not a line, not a detail of ornament the study of which seemed less useful, or rather less *amusing,* to the artist than any other. . . . The architectural details have been studied, caressed, we might say, with the same loving conscientiousness of which we spoke a moment ago. Quite a spontaneous conscientiousness, however, and one that we are hardly called upon to credit the artist with. He was *amusing himself,* and there does not seem to be very great merit in that. How could works of art conceived with such fervor and executed from beginning to end with so much delight be really tedious? Did their authors really possess so little happiness, or rather so little common ability? The least particle of talent, backed up by such a way of working, ought to produce interesting things: what if these methods are placed at the service of genius?"

M. Gromort classifies the Renaissance works of architecture in three divisions, marking the periods of development, and he discusses each period in a way that is illuminating and intensely interesting. The book contains one hundred ten photographs and measured drawings, also forty-five illustrations in the text and a folding chronological chart of the principal Renaissance buildings.

THE SKETCH COMPETITION

AS THIS issue goes to press we are able to say that the Birch Burdette Long Sketch Competition for 1922, judging by the number of entries, will be as great a success as the competition held last year. The judgment will take place shortly at the headquarters of the Architectural League of New York where a selection of the drawings will be exhibited for one week. A travelling exhibition of sketches will then be sent on the road.

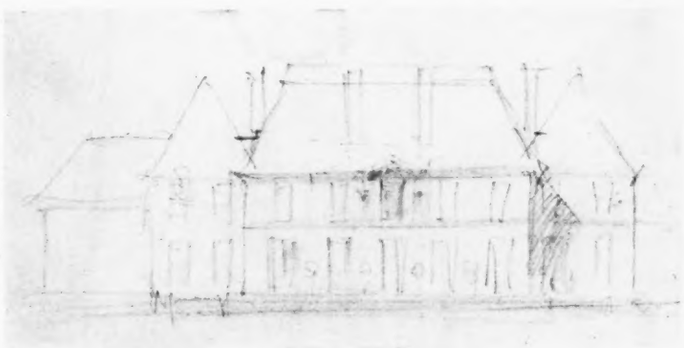
Rendering by Otto R. Eggers, Drawn in Pencil with Light Washes of Color. *For Description of the Making of This Drawing See Mr. Eggers's Article Beginning on the Opposite Page.*

THE GENESIS OF A RENDERING

BY OTTO R. EGGERS

In this article Mr. Eggers describes in detail the way in which he made one of his renderings, covering every step from the first conference with the client to the completion of the drawing, illustrating his method of working by a concrete example and making helpful comments as he proceeds.—ED.

THE drawing reproduced on the opposite page was made for the double purpose of studying the design and of showing the idea to the client. The first step was, naturally, to learn the client's requirements. In this instance this was rather easy, for she had spent much time in France, had a house in a suburb of Paris in fact, and showed a decided preference for the chateau type. The idea was crystallized by going over a number of books with the client, noting the characteristics of the old chateaux that especially appealed to her. The site, a strip of comparatively level land along a river, was of the kind into which a house of this character would fit very well. The slight slope of the ground was eliminated before the completion of the work. As the approach was to be from the higher ground on the side opposite to the river front, the first view of the house would be in the nature of a bird's-eye view. Under these circumstances, it was apparent that steep roofs would be desirable—the kind of roofs that one can play with.



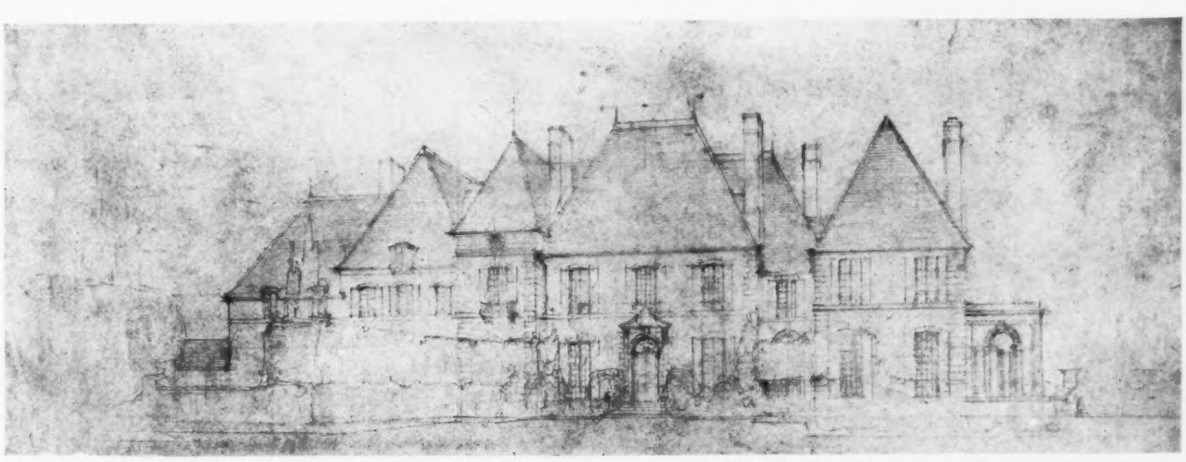
Rough Study of an Elevation.

Rough free-hand studies of the plan were made, always keeping in mind the exterior. The size of the various rooms were more or less predetermined. Incidentally, it may be said that the ceilings were to be high and the interior more formal than the exterior. Next, a sketch plan was drawn with T-square and triangle.

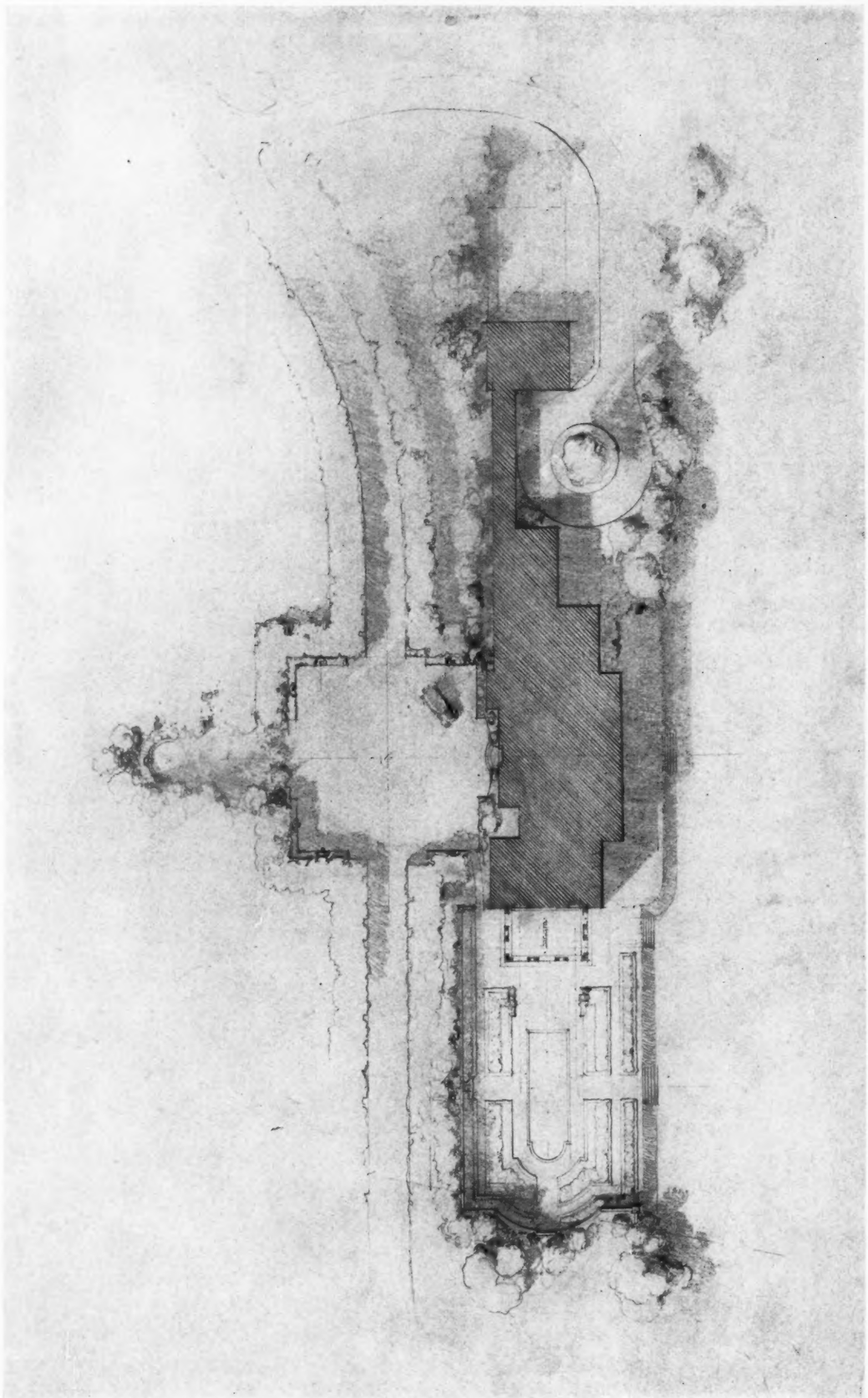
Then rough elevations were sketched, merely studies in mass, made principally to give the silhouette of the roofs. One of these elevation studies is shown on this page. It happens to be of the river front of the house, opposite to that shown in the perspective.

The planting that would be required by the site was then studied in a rough sketch. This planting is shown on a more carefully drawn plot plan which was made at a later stage and is reproduced on page 12, in connection with this article.

The next step was the making of the preliminary drawing that was to serve as a basis for the rendering. This drawing is shown in the illustration at the bottom of this page. It was made practically in elevation in order that the design might be studied the more easily. It is at one-eighth inch scale and was drawn very lightly and indefinitely. A hard



The Preliminary Drawing Which Was Used as a Basis for the Rendering Shown on the Opposite Page.



Pencil Drawing by Otto R. Eggers, Plot Plan Showing Grounds of House Represented in the Rendering on Page 10.
See Text Beginning on Page 11.

and very definite drawing makes a bad basis for a rendering for it is difficult to avoid getting the hardness of the preliminary drawing into the finished work. By the way, a professional render who has that kind of drawing given to him, as is often the case, is badly handicapped at the start. There seems to be no way out of that difficulty, however, where the rendering is not to be done by the designer, for one man can hardly be left very much freedom interpreting another's architecture.

In making this preliminary drawing there was no instrumental preparation, in the usual sense. A plan at one-sixteenth inch scale was used for reference only. The widths and heights of the various main parts were simply scaled off and a vanishing point assumed somewhat to the right of the centre. The ridges of the roofs were drawn to this point. The long horizontal elements of the front, eaves, etc., were drawn in with the T-square used as a straightedge and tilted so as to make the lines converge towards the left. No vanishing point was established at the left, the lines being drawn as seemed about right.

The architecture was studied on this drawing; sizes and widths of openings, etc., a figure of a man being lightly sketched in for reference as to scale. This drawing was left sufficiently indefinite to permit further study in the making of the final sketch.

On this preliminary drawing I roughed in lightly the general position of the planting that would be necessary around the building. I then put a piece of very transparent tracing paper over this drawing and went ahead with the pencil sketch, making it over the preliminary drawing which showed through clearly.

I first consider the scheme of my picture in a general way to decide where the lights and darks are to be placed and their relative intensity. If, as in this case, the drawing is to be mounted on gray cardboard and Chinese white used to bring up the contrasts, I consider where I shall use the white.

I usually start working as near the centre of interest of my picture as I can without the danger of putting my hand into the drawing. To save the rendering I usually draw with a T-square under my hand. My reason for starting near the centre of interest is that in this way I am able to feel the drawing as I proceed. When the main entrance of a building appears in a drawing, it is usually best to make this the centre of interest.

As a rule, if there is any foliage in front of a building, that should be put in first, as one cannot do any rubbing out. Usually, the nearer planes should be drawn first, so that all that goes back of them may take their proper value and position. Each part drawn should be fully rendered before passing on to the next part, with the exception that positive blacks may be put in after the drawing is otherwise completed. In general, it is well to work from the top downward, so roofs are among the first parts drawn in. I hardly ever use a straightedge in rendering, excepting once in a while to run in a few lines, when I have a long cornice, for instance. If, when shadows are drawn in, the detail of the surface upon which they are cast does not show sufficiently to give life to the shadows, the indication of this detail may be strengthened. Where ivy is shown, if it does not come out black enough, it can be strengthened later by making what may, for lack of a better term, be called curly, zigzag little lines, that suggest the leaves.

In drawing trees it seems natural to draw them upward, the way a tree grows. I put in the trunk first and then draw the branches out from it and the smaller branches in turn, indicating the branches only very lightly. I then draw in the foliage and strengthen the parts of the branches that can be seen among the foliage.

Only the general characteristics of different kinds of trees can be preserved, as a rule, in a rendering, the general form and manner of growth, for instance, the very crooked branches of the apple tree and the characteristic shape of its masses of foliage; the pine tree with its mast-like trunk from which horizontal branches radiate at intervals. Some trees have a general cone shape massing, while the elm is well known by its broad-spreading top, etc. The oak is an especially difficult tree to preserve the character of in a rendering.

In drawing shadows in the foreground I keep all the lines horizontal, no vertical lines or slanting lines. Shadows can often well be put in by scratching with the pencil from side to side and smudging with the thumb to pull the whole together. When a shadow has been made in this way a green rubber may be used to make some horizontal light spots that give the effect of sunlight coming down through foliage. Later on one can put a dab of yellow in each of these light spots to carry further the suggestion of sunshine.

In a pencil rendering, I hardly ever indicate clouds. I leave the sky absolutely untouched, because clouds usually compete with the building and unless they are composed and drawn with great care their appearance is not good. There are times, however, when I want clouds in a rendering; then I give them careful study.

In choosing a paper for a rendering I prefer a smooth paper rather than one that has considerable texture, excepting for large renderings. While drawing on thin paper I use a piece of smooth cardboard as a foundation and tack my drawing paper down over it.

When the pencil work was completed, the next step was to mount the drawing by floating it on a cardboard. Floating a thin paper drawing requires some practice. I first turn the drawing face downward on a clean piece of paper. Then I wet it thoroughly with a clean sponge full of water. Next I pour drawing board paste onto it and spread the paste evenly with the wet sponge, being sure that the paste is spread all the way to the edges and that it does not dry anywhere. I then have some one help me by taking up two corners of the drawing while I take up the other two. The drawing is lifted by the corners and turned over so that the paste-covered side is down. It is then let down onto

(Continued on page 35)

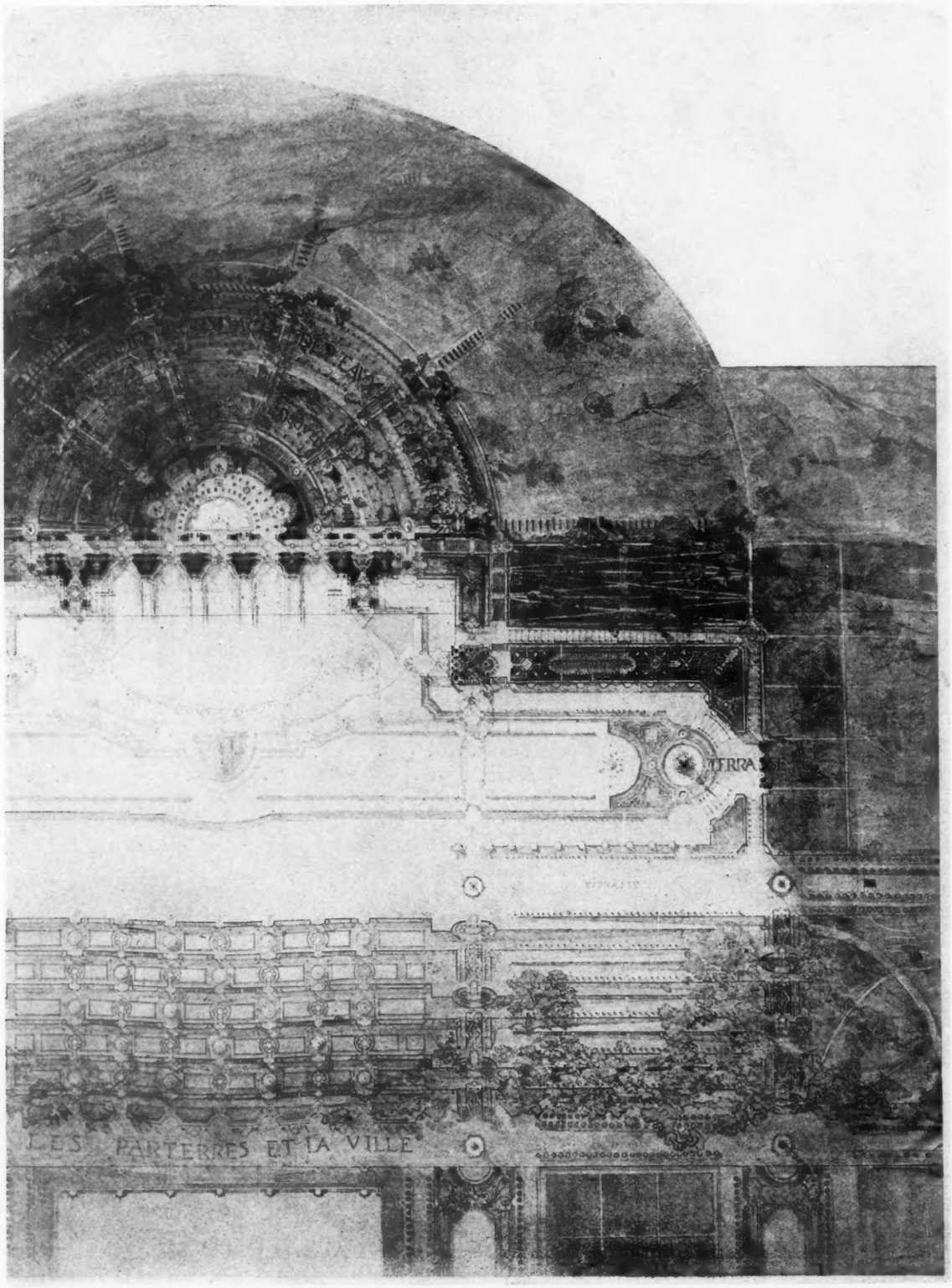


Figure 182. "Un Chateau d'Eau." Portion of Design by M. Janin, Pupil of M. Laloux. Placed Second, Grand Prix D'Rome, Ecole des Beaux Arts, Paris.

THE STUDY OF ARCHITECTURAL DESIGN

WITH SPECIAL REFERENCE TO THE PROGRAM OF THE BEAUX-ARTS INSTITUTE OF DESIGN

CLASS B. PLAN PROBLEM. PART XI.

Indication

BY JOHN F. HARBESON

In this series of articles, which began in January, 1921, Mr. Harbeson is explaining the method of working and how to get the greatest benefit in following the program of The Beaux-Arts Institute of Design. It is not intended as a substitute for personal instruction and criticism. The "Analytique" was treated in issues for February to September, 1921, inclusive.—ED.

AS ARCHITECTS understand it, "indication" may be of three kinds, in each of which the object is to get an "effect"; part of this desired effect is to give an idea of the third dimension as well as the floor area, for instance making thicker the points of poché that support big rooms, as we shall see later. These three kinds are (a) that used in making the esquisse; (b) that used in making studies, for one's own use or to present to the critic, and (c) that used in presentation drawings. Indication as used in the drawing of an "esquisse esquisse" or sketch problem is a mixture of the last two. It will be considered separately.

(a). In an esquisse, a scheme is to be shown, but an indication of detail of any sort is avoided by preference, so that all such questions of detail may be left for study. Thus, in Figure 177, while the big divisions of the building are shown both in plan and elevation, there is no attempt, for instance, either in plan or elevation, to fix the number of windows in the wall which forms one of these divisions: even the number of columns in the portico is preferably left to the time when that number may be studied; the crowning feature of the end motif is purposely vague: there will be a mass there that will show in silhouette—that is all that it is desirable to indicate. There is a certain freedom in the drawing of an esquisse: it is not the place to express with definiteness.

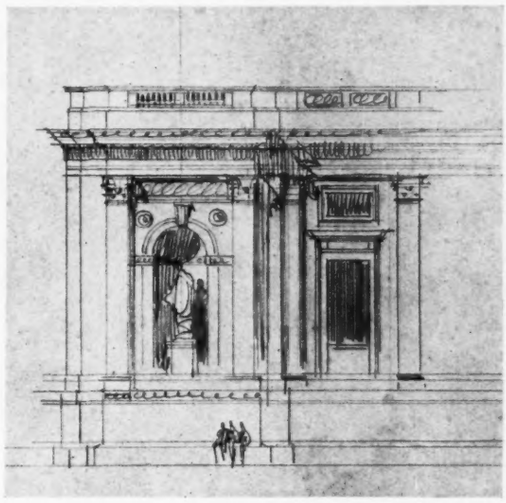


Figure 178. An Example of the Kind of Indication Used in Making a Study.

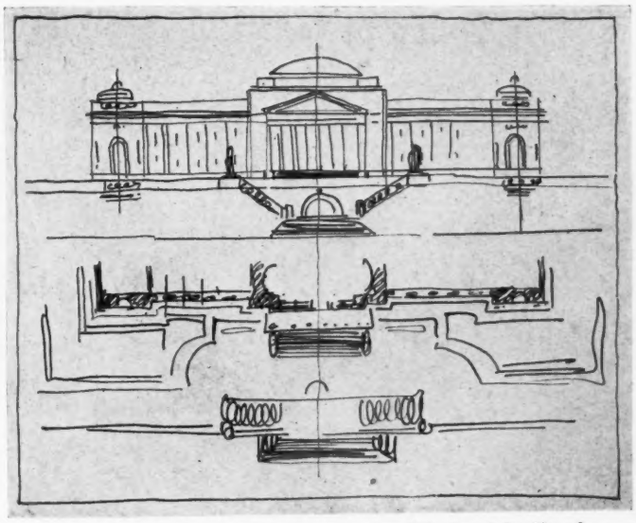


Figure 177. An Example of the Kind of Indication Used in Making an Esquisse.

(b) In making studies it is needless to say that "indication" is a great time saver. Were time of no value studies might be made by means of carefully drawn and rendered plans and elevations, but where a limited time is given for a problem, (and to prepare for actual practice, where time has a money value) the principal use of indication is to make visible the "scheme" as rapidly as possible, and to confine one's attention to the big principles of design as effecting this scheme, and keep it away from detail. M. Scellier de Gisors, formerly a professor at the Ecole des Beaux Arts in Paris, preferred that all studies of elevation put before him early in the study of a problem should

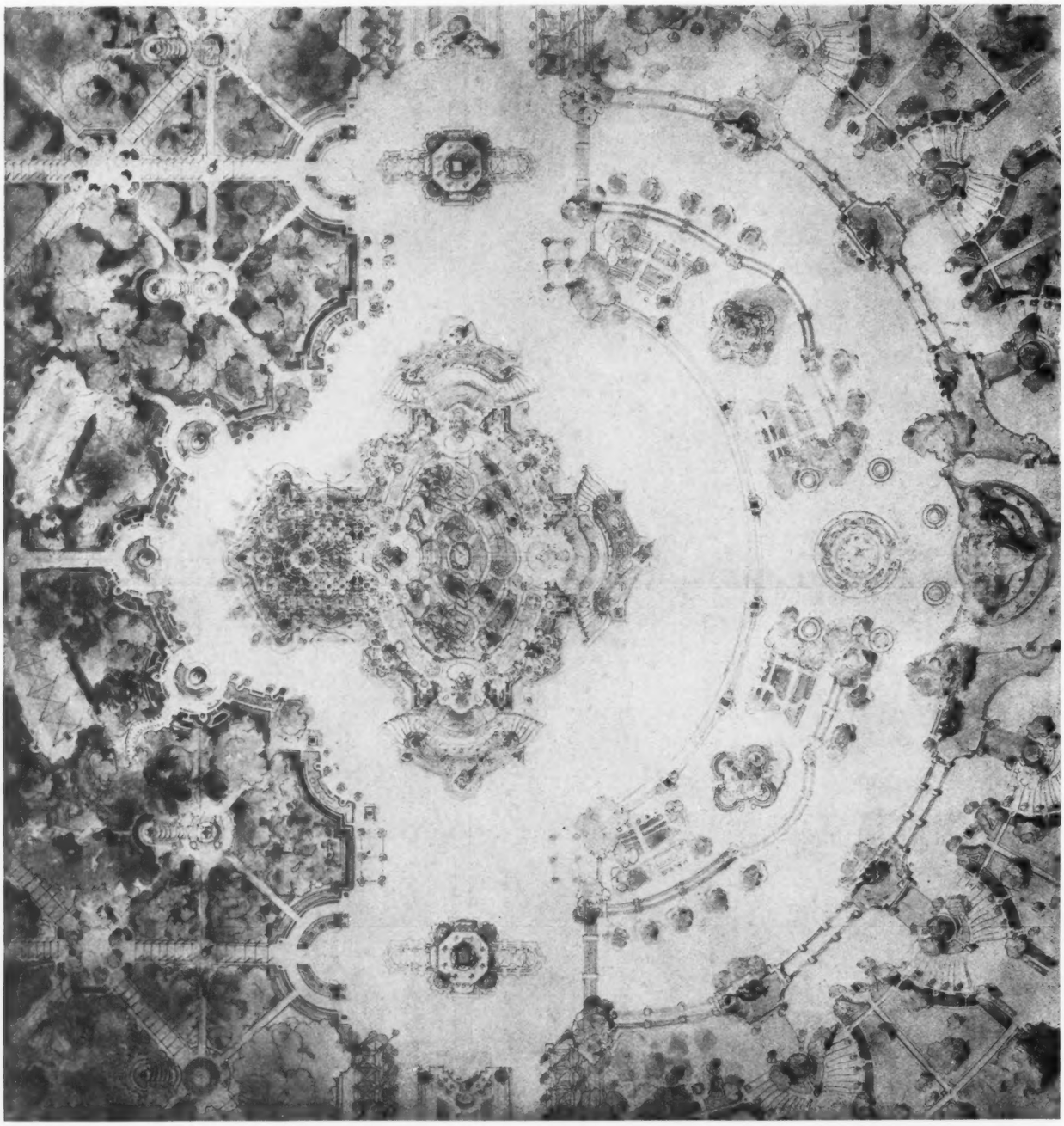


Figure 180. "Les Salles de Fêtes et de Réunion et Les Grandes Serres d'un Jardin d'Acclimatation." Design by M. Maxime Petit, Pupil of M. Deglane. Achille Leclère Prize, 1912. Ecole des Beaux Arts, Paris.

have all the openings—doors and windows—blacked in solid with ink, which of course will show immediately the proportion between the solids and the voids of a façade, as well as the proportion between the different voids, and these are the first things that must be studied and made satisfactory. He felt that a clever man, one who renders well, frequently deceives himself by making studies in which he has, because he can render well, covered up the faults in his design or taken the attention away from them.

It is for the same reason that most critics ask to be shown in the first few days of study of a problem and at intervals during this study a plan on which all the walls are pochéd—blacked in in ink—even if done free-hand with a brush or a stub pen. This will at once show the varying sizes of the rooms, their relation to each other, and which ones are important.

As the studies progress the indication enters more into detail. In free-hand studies of elevation, or studies in which the main lines, the part already determined from previous drawings, are made with T-square and triangle, other parts are done free-hand and largely "indicated." In any study of elevation shadows play an important part: the line of shadow having been cast, the shadow can be most quickly filled in by a vertical free-hand hatching in pencil or by a series of spirals, as in Figure 178, usually smudged with the finger in either case. Openings are merely indicated until some arrangement worthy of more careful study is decided upon. Such details as balusters, column caps, or ornament, are indicated rather than drawn.

Indication in plan is important for its use in study for the same reason—to avoid spending time on detail that should be spent in study of proportion. Compare Figures 162 and 163 (September). As we have already said, the former gives very well the general effect, yet a comparison of the two immediately shows the difference in time required to get this effect.

(c). Even in the presentation drawings, when an elevation is at small scale, the ornament on mouldings is frequently indicated and not drawn. Unless a drawing is large enough in size to study such detail it makes little difference whether the ornament be egg and dart or tongue and leaf, or something else—a band of gray is the important thing. Bas-reliefs or sculpture may frequently be indicated rather than drawn on such small scale elevations.

In the plan indication is of more importance, because the plan is a conventional drawing, and indication plays a large part in this convention. Indication affects both the "poché"—the actual walls of the building—and the "mosaic," both inside and outside of these walls. Let us take first the poché. As we have said, the poché shows which rooms are important: the big rooms will usually have thicker walls—thicker points of poché—because the great spans required to roof them will cause heavy loads on these walls. These rooms too will usually have a richer outline—as the walls may have pilasters, engaged columns, panels, or niches, which would be lacking in corridors or rooms intended for the services of the building. Thus the poché will at once give scale and character to a plan. It is interesting to study the Grand Prix plan of Bigot, Figure 179, to see how the character in the three portions of the group—bath house, casino, ball-room—are shown by both poché and mosaic.

In examining any plan we see that the walls vary in size—in a big plan, that there is a great variation in

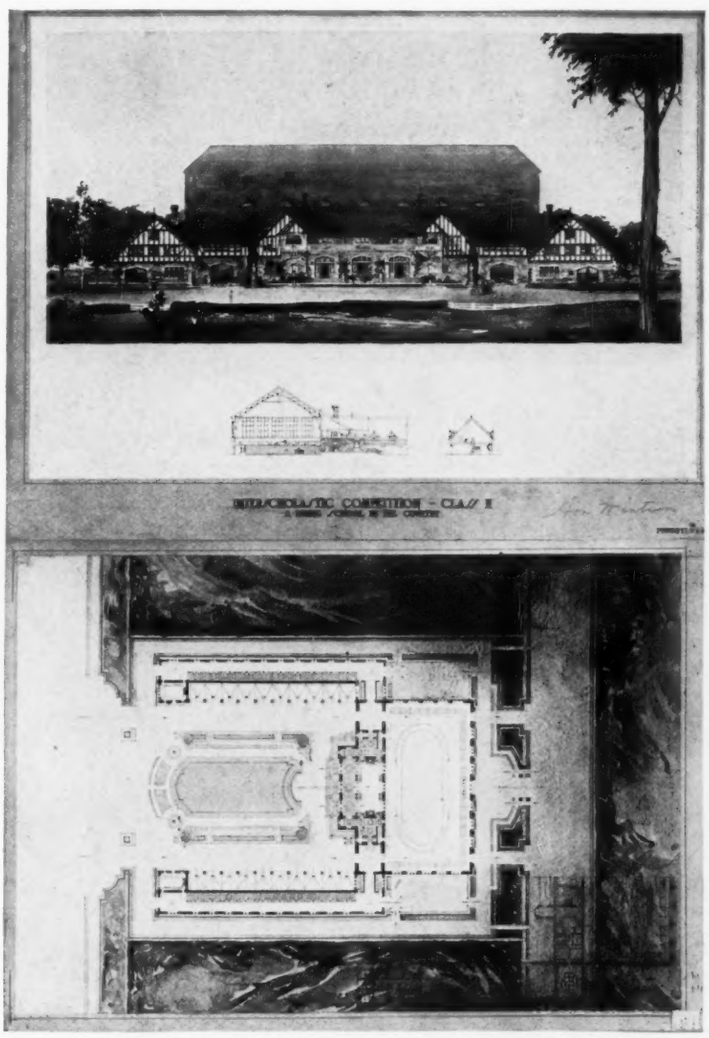


Figure 181. "A Riding School in the Country," by G. E. Brumbaugh, University of Pennsylvania. Honorable Mention in Class B., Interscholastic Competition 1911-12.

size. They vary in thickness for several reasons. 1. High walls are thicker than low walls built of the same materials. This is the result of constructive necessity, as any building law will show. 2. The larger the room, the thicker will the walls be, if built of the same materials. This again is the result of constructive requirements. 3. A change in the type of construction materially alters the shape and size of the points of poché—vaulted rooms require heavier points of support than flat ceiled ones. Where thrusts occur in construction, either from arches, or from vaults, or from some kinds of trusses, the resultant pressure must be taken care of by means of a thickening of the wall in the direction of the thrust—resulting frequently in buttresses —unless counter-balanced by a corresponding thrust on the other side. If a room has a barrel vault, there will be heavy walls on the sides, and lighter walls, or none at all, on the ends; while a room with a cloister vault will have heavy walls on all four sides. All these things affect the poché.

4. A change in the material used in construction will, of course, cause a change in the character and weight of the poché. This is especially striking where a building is in part of masonry and in part of steel construction. In Figure 180, a horticultural society's building, note the interesting differentiation between the poché of the rooms of more ordinary size and construction, and the large horticultural hall in front—a sort of monumental greenhouse, where the thin points of support show that the construction is of metal and indicate the large areas of glass. This plan is also interesting for its study in mosaic. Note, too, the character of poché used to express the large central banking room in the Grand Prix plan of Tony Garnier, Figure 9, in Mr. Swales' article in the November 1921 issue of PENCIL POINTS.

The walls of a façade are usually heavier than

(*Continued on page* 34)

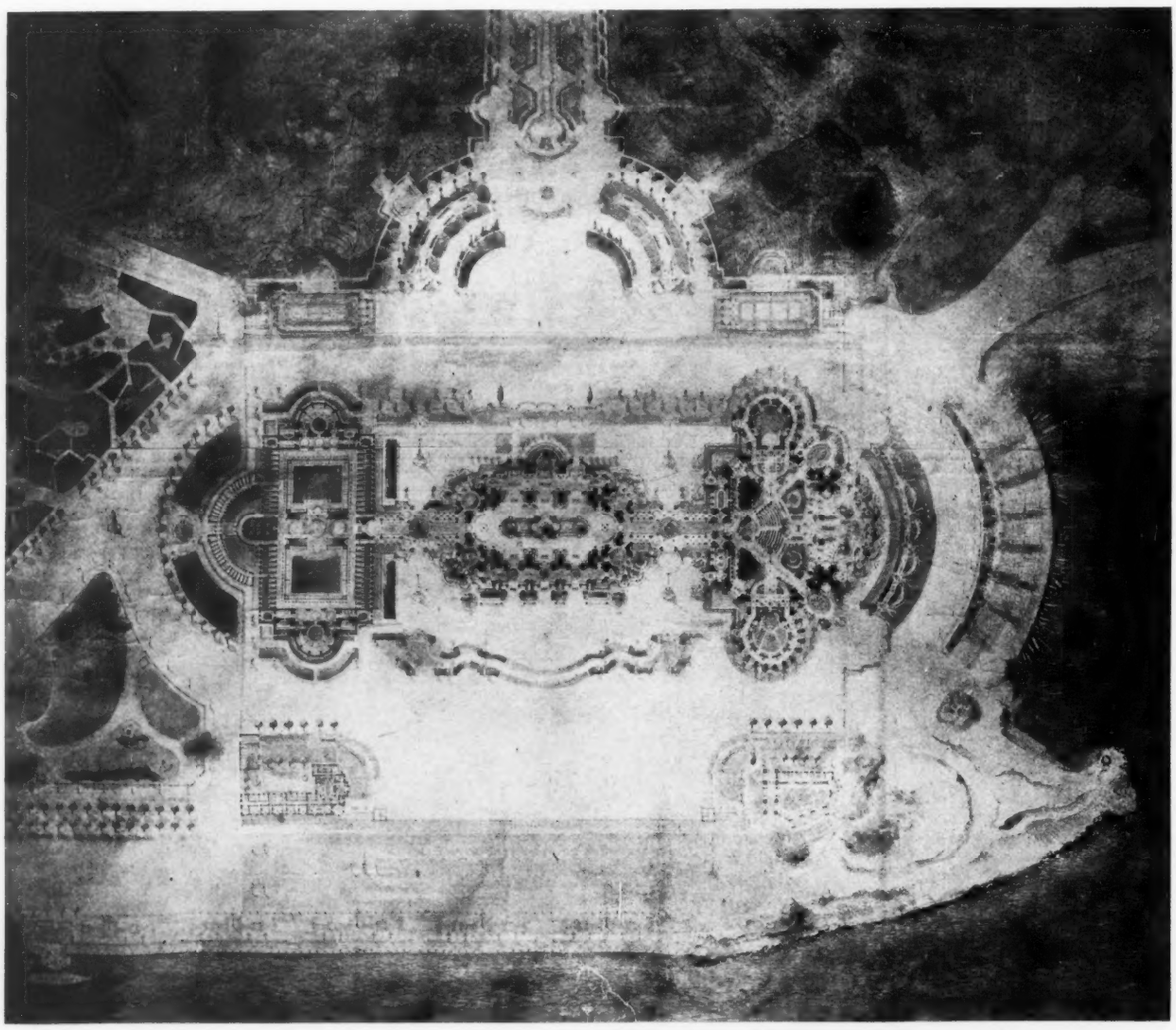
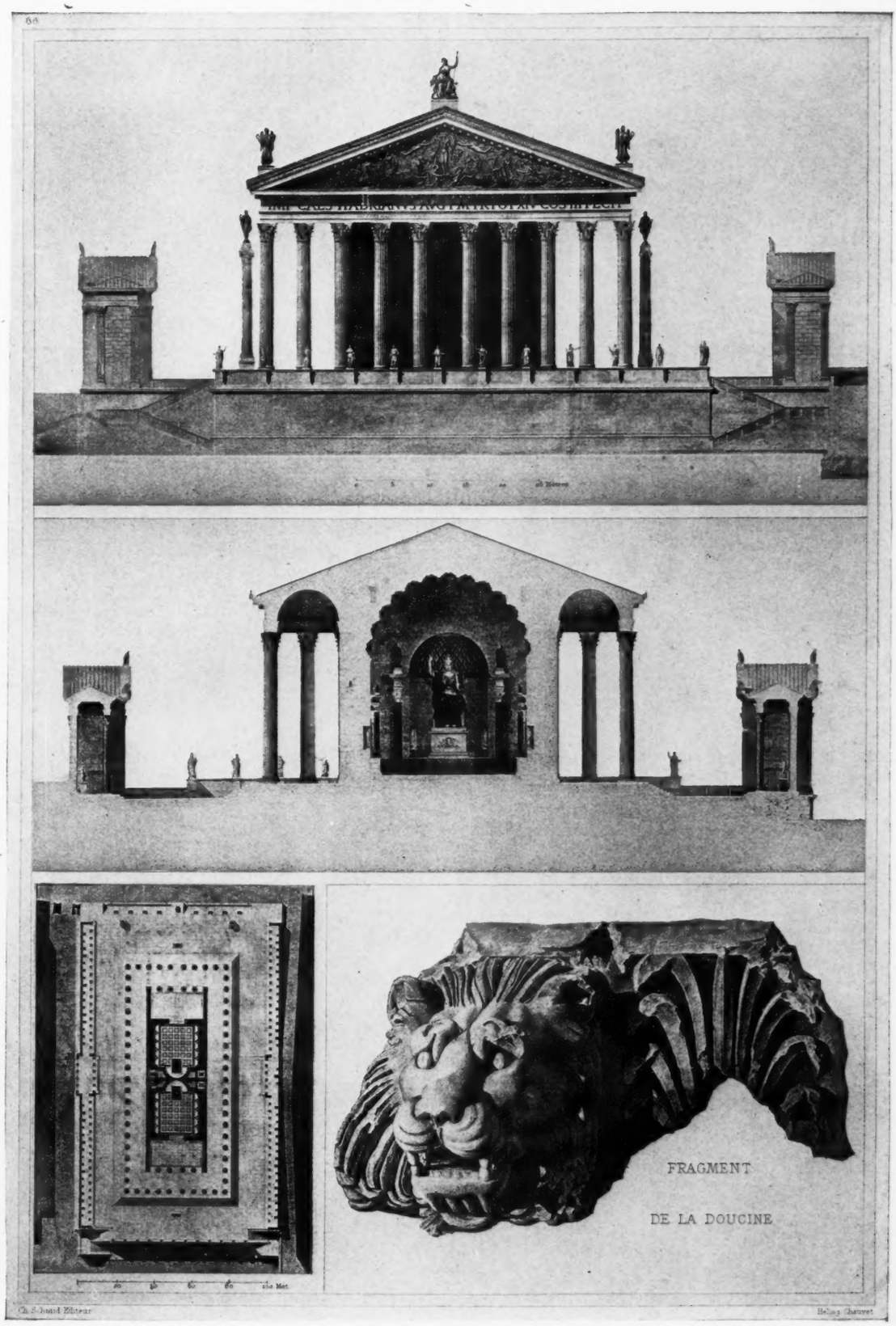


Figure 179. "Un Etablissement d'Eaux Thermales et Casino," by Eugène Bigot, Pupil of M. Laloux. Grand Prix, 1900, Ecole d'Beaux Arts, Paris.



TEMPLE OF VENUS AND ROME
FROM D'ESPOUY'S "FRAGMENTS D'ARCHITECTURE ANTIQUE"

The restoration of the Temple of Venus and Rome reproduced on the other side of this sheet from D'Espouy's "Fragments D'Architecture Antique" is a most interesting representation of this very large temple of which remains still exist. This temple was built by Hadrian in 135 A. D. and was reconstructed by Maxentius in 307 A. D. As will be seen by referring to the plan in the corner of the plate, it was divided in two parts. The detail including the lion's head is a portion of the ornament of the cornice.

DOWN-TOWN NEW YORK. PENCIL SKETCH BY VERNON HOWE BAILEY

The sketch of down-town New York by Vernon Howe Bailey which is reproduced on the other side of this sheet is one of the most interesting of this artist's drawings and shows his mastery of technique admirably. It is lithographic pencil on a paper of light ivory tint.

FIGURE STUDY BY KENYON COX

On the other side of this sheet is reproduced one of the remarkably fine pencil studies from life made by the late Kenyon Cox. It is our good fortune to be able to present this drawing through the courtesy of Mrs. Cox.

PENCIL SKETCH, BY KENNETH CONANT. CATHEDRAL AT LUGO, SPAIN, FROM THE TOWN WALL.

One of the many delightful sketches made in Spain by Kenneth Conant in the summer of 1929 is reproduced on the other side of this sheet. It is one of the finest of the series, and conveys the architecture especially well while having excellent pictorial character. Other drawings by Mr. Conant will appear in early issues.

MOTION PICTURE THEATRE DATA, PART V

BY EMIL M. MLINAR.

In this serial article Mr. Mlinar, who is the New York associate of C. Howard Crane, Architect, Detroit, Michigan, is going thoroughly into the practical considerations in motion-picture theatre design, presenting the data indispensable in designing and making drawings for such theatres. Mr. Mlinar specializes in theatre work and was formerly of the office of Thomas W. Lamb.—Ed.

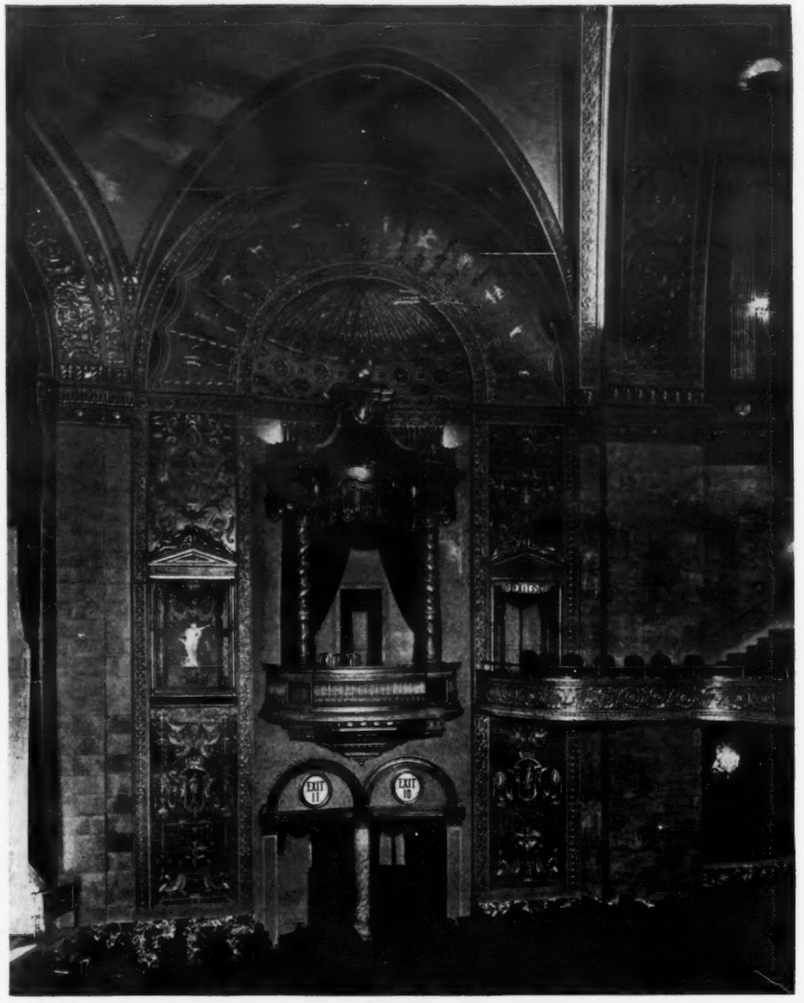
MUCH thought has been expended by architects upon the design of the proscenium, and it is interesting to note here how some architects have treated this feature, especially the big area supporting the sounding board. We, therefore, publish in connection with this article a number of photographs showing the proscenium in various motion picture theatres, including several of the type that is favored by architects on the Coast as well as the kind of treatment generally employed in the East and throughout the country.

Mezzanine of Loew's State Theatre, Los Angeles, Cal. Weeks & Day, Architects.

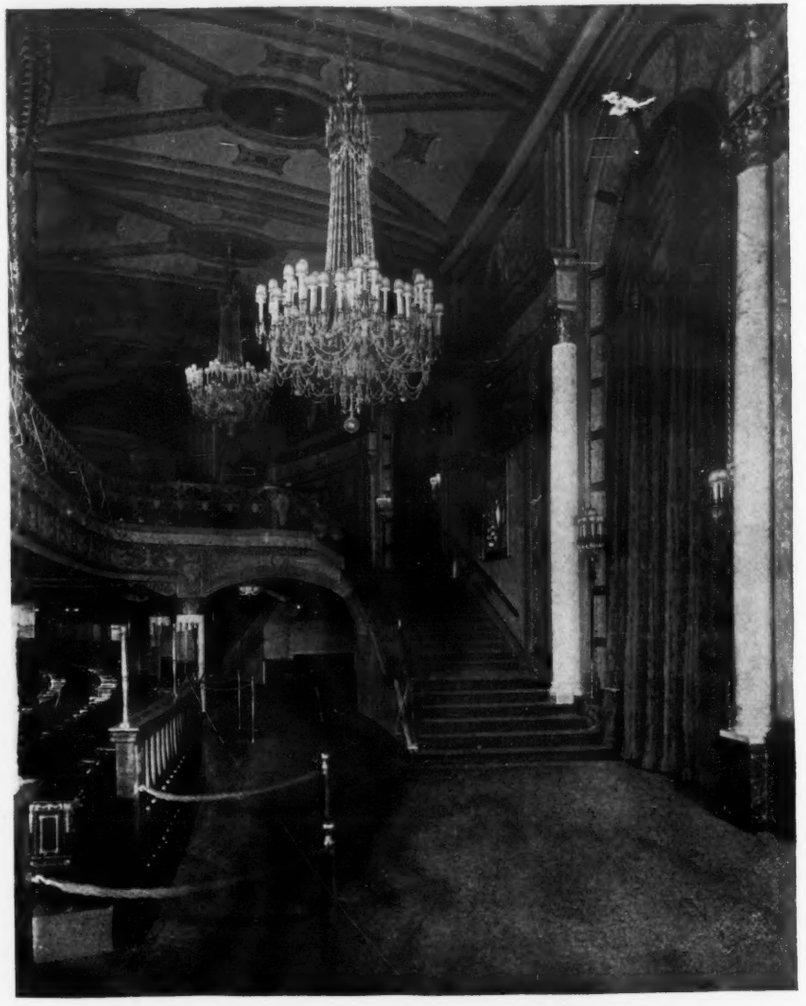
In their effort to secure the most effective proscenium treatment architects for some time have endeavored to do away with the customary boxes, which do not permit of the most satisfactory treatment of the proscenium on account of the fact that they project beyond the architectural surface. From the theatre owner's standpoint, however, the boxes are often highly desirable, not only on account of the fact that they provide additional seating and higher prices than are charged for most other seats, but because when a motion picture theatre is built with boxes it may be more readily turned into a legitimate theatre. Personally, I am in favor of doing away with the proscenium boxes but if they are required they should be given particular study.

One of the most serious mistakes in connection with the designing of the proscenium is to overlook the fact that the people sitting at the side of the house must look through that portion of the auditorium into which the boxes pro-

Mezzanine of Loew's State Theatre, Oakland, Cal. Weeks & Day, Architects.



Detail of Loew's State Theatre, New York.
Thomas W. Lamb, Architect.



Detail of Capitol Theatre, Detroit, Mich.
C. Howard Crane, Architect.

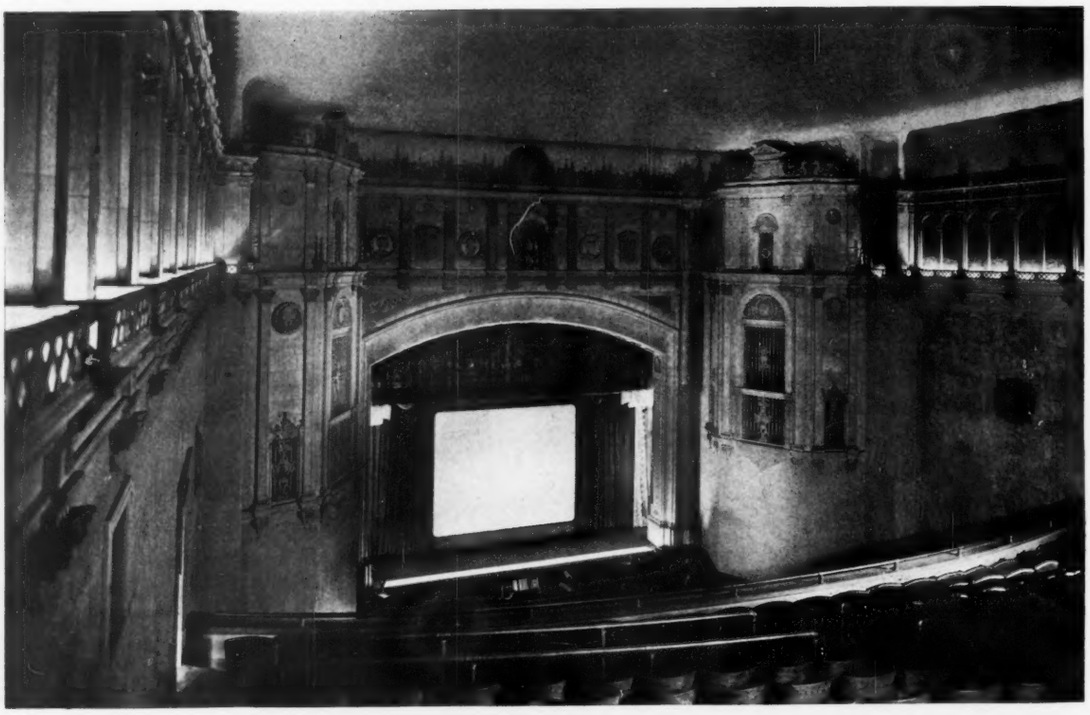
Auditorium of The Capitol Theatre, New York. Thomas W. Lamb, Architect.

ject and in order to overcome the possibility of cutting off the view of the screen from some of the seats the relation of the boxes to the stage must be carefully considered. It will be noted by reference to the illustration of the auditorium of the Capitol Theatre, New York, that the designer has cut down the corner of the box over the lower orchestra boxes so as to avoid cutting into the sight from some of the orchestra seats. Though the value of this box for seating people was not regarded as highly important, it has been so designed that it is entirely satisfactory for use.

Not infrequently in planning a theatre too much is taken for granted as to the placing of the picture screen. It is sometimes assumed that the screen will be placed at the front of the stage, a very bad thing to do. The placing of the screen at the front of the stage would make the first six or seven rows of seats undesirable, for the picture becomes distorted when viewed from this position and to view the screen at such an angle is also very uncomfortable. A good rule to follow is to place the screen within five feet of the rear of the stage and arrange the sight lines accordingly. It is well to assume a stage depth of thirty feet clear which is usual for this type of house. This measurement is taken from the so-called curtain line at the point back of the footlights where the asbestos or steel curtain is located. This arrangement allows for the use of a stage setting which may be architectural in the

(*Con. on p.* 33)

Proscenium of Loew's State Theatre, Los Angeles, Cal. Weeks & Day, Architects.



Proscenium of Loew's State Theatre, Stockton, Cal. Weeks & Day, Architects.

Balcony and Boxes of Loew's State Theatre, Los Angeles, Cal. Weeks & Day, Architects.

PENCIL POINTS

Published Monthly by

THE PENCIL POINTS PRESS, Inc.

Publication Office—Stamford, Conn.

Editorial and Advertising Offices—19 East 24th Street, New York

RALPH REINHOLD, President F. W. ROBINSON, Treasurer
EDWARD G. NELLIS, Vice President and Secretary
EUGENE CLUTE, Editor W. V. MONTGOMERY, Business Manager
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Subscription rates per annum, payable in advance; United States of America and U. S. Possessions, Cuba and Mexico $1.00, Single copies 15 cents; Canada $1.25 all other countries $1.50. Payment for Foreign Subscription should be made by International Money Order or American Express Money Order, drawn in terms of United States Money.

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LLOYD WARREN.

LLOYD WARREN, whose devotion to architectural education made him a most powerful influence for the good of the profession and won for him the esteem of architects and educators as well as the gratitude of numberless students throughout the country, met his death by accident on the night of October 25. Mr. Warren, evidently seized by an attack of dizziness caused by an injury to his head sustained a few weeks earlier, appears to have made his way to an open window for air, and leaning out fell to the pavement of the court six stories below. The injury which was the indirect cause of his death was received while Mr. Warren was at Parma, Italy. His chauffeur ran his car onto a rock pile in avoiding a collision and Mr. Warren was thrown upward in such a way that his head struck a metal cross piece in the top of the car. The wound required eight stitches and had not completely healed at the time of Mr. Warren's death, surgeon's gauze being found on the wound.

Mr. Warren, who was a bachelor, lived at Harperley Hall, 1 West 46th Street, corner of Central Park West, New York City. He was a member of the Knickerbocker Club, Racquet and Tennis, Tuxedo, Century, University, and other clubs. He was a brother of Mr. Whitney Warren of the firm of Warren & Wetmore, architects, and was at one time associated with Mr. Whitney Warren in the practice of architecture, but for the last many years he devoted himself to educational work, chiefly as Director of the Beaux-Arts Institute of Design.

Mr. Warren was fifty-four years old. He studied at the Ecole des Beaux Arts, Paris, for seven years previous to 1899, in the Atelier Daumet, was an *Architecte Diplomé par le Gouvernement Français*, a member of the S. A. D. G., and one of the founders of the Society of Beaux-Arts Architects, from which the Beaux-Arts Institute of Design grew. At the time of the world war Mr. Warren headed the A. E. F. training school at Belleview, in France, established for the purpose of making the facilities for study that abound in France available to members of the A. E. F. awaiting return home.

The growth of the Beaux-Arts Institute of Design to its present importance as a unifying and inspiring force in architectural education in this country, affording as it does, facilities for the comparison of the work of students in all parts of the country at its judgments, with the consequent stimulation of the students to put their best efforts into the work, has been due in a large measure to Mr. Lloyd Warren, to whom his associates in the work, the men who have contributed largely and freely of their own talent and energy, are the most ready to offer tribute for his leadership.

THE BURNHAM LIBRARY OF ARCHITECTURE.

FROM the Illinois Society of Architects' "Bulletin" we quote the following:

"It was ten years ago that Daniel H. Burnham died, leaving to the Art Institute a fund of $50,000 for an architectural library. The income from the fund has been spent for books, under the guidance of a committee of architects; Howard Shaw, chairman, E. H. Bennett, Peirce Anderson, Hubert Burnham, and W. A. Shattuck, the last named succeeded by E. S. Campbell; John Holabird was added to the committee recently. The committee purchased the architectural books of Ryerson Library, and until 1920 the collection was kept in that library. By that time the nucleus of 1,200 volumes had doubled, and the architectural alcove had been outgrown. In January of 1920 the collection was moved into a newly finished room, adjacent to Ryerson Library. This room was designed by Howard Shaw and contains two murals contributed by the artist, Frederick Clay Bartlett.

"During these ten years the committee has striven to gather a good working library; additions of antiquarian character have been incidental. Yet in the present collection of 3,300 volumes there are many rare works of which any library might be vain. The first illustrated edition of Vitruvius, Florence, 1513; the first architectural book published in England, Serlio, dated 1611; Kip and Knyff's "Neuveau theatre de la Grande Bretagne," 1720; the "Oeuvres" of Jean LePautre and the so-called "Petit Marot" both of the seventeenth century; and the second Roman edition of Piranesi, 1748-1783; these are a few of the works necessarily kept behind glass. As a whole, the collection is open to the reader; and as the library is free at all times to architects and draftsmen, there is no hindrance to the man who means to know the work of the great men. As a matter of fact, it is really visited by a very small proportion of those who should know it."

Lloyd Warren.

THE AMERICAN ACADEMY IN ROME.

FROM a letter recently received by Mr. C. Grant LaFarge, Secretary of the American Academy in Rome, from Mr. Gorham P. Stevens, Director, we quote the following: "We have wound up the affairs of last year, and are now fairly embarked upon those of this year. Professors Frank and Showerman are both in residence. Professor Curtis arrived from Naples in the Ford sedan which he brought from America with him and which he and Professor Fairbanks are sharing. It is the only Ford sedan in Rome and creates quite a sensation in the city. The enrollment in the schools amounts thus far to twenty-four students, but we expect about as many more to join us as the season advances. The new men are all most enthusiastic about what they have seen of Europe. I attended Professor Frank's first lecture at the Forum today and there were many students from both schools present. Professor Frank is an inspiring lecturer.

"We have had an applicant in painting, who wishes to try the competition next spring in Rome. He is a young artist of twenty-two from California, and he has just had a year in Paris where he entered the Ecole des Beaux Arts. Former Sculptor Polasek and Former Painter Cox both appeared in Rome last month. It is needless to say that they were much interested in all that was going on, particularly Mr. Polasek who was not at all familiar with our buildings on the Janiculum.

"All our articles for the Academy number of Art and Archaeology are ready with the exception of Mr. Paul Manship's. He says he has never done any writing, but i heard him give a lecture eleven years ago on Greek Archaic art which was one of the best conferences I ever heard. He says he is writing the article and he ought to turn out something worth while.

"I attended a reception in honor of the Southern Commercial Congress (of North America), and I had an opportunity to talk with the chairman of the Congress, Mr. Clarence J. Owens. He asked permission to see the Academy so I invited him and his Congress to take tea on the terrace of the Aurelia with all Rome spread out at their feet, and then they all went through the studios. Before leaving I had a talk with him in my office, and he expressed the desire to help the Academy. He seemed to be a very active man and in touch with a great many interests. He said he would call upon Mr. Mead, a thing I sincerely hope he does.

"The large umbrella pine trees, thirty feet high, have just been erected in the forecourt of the main building. These trees are a gift from Mr. Kendall and I believe that Mr. Vitale also has a hand in their donation. They are twenty years old and their roots have been in boxes for the last three years, so that there is every hope that they will live. A hundred years from now I suppose these pine trees will look like some famous pine trees I know of at Hadrian's Villa. They will cover the forecourt with a beautiful net-work of green and branches.

"It may interest you to know that I had a call from four British architects the other day. They were studying the work of McKim, Mead & White and they knew all about the building before seeing it, from architectural drawings and photographs.

"Professor Fairbanks and I are trying to arrange for some casts for Princeton University. That university desires to reproduce two bays of Bramante's courtyard in Santa Maria della Pace at Rome, and the bays are to be placed in the new architectural museum at Princeton. I am negotiating with the Italian government for permission to do the work."

From a letter received from Frank P. Fairbanks, Professor in Charge of The School of Fine Arts, we quote the following: "September usually has been the concluding month for the third year Fellows but because of the deferred scholarships of the Architect Chillman and our Painter Lascari, only Jones bade farewell to the Academy at the customary time. Jones will arrive in Boston and go immediately to New Hampshire to the country place of Mr. George Baxter Upham, for whom he is to design a lion fountain head for an antique marble basin, after which he will return to New York. He has some portrait busts to do and Mr. F. Baker has talked of having some of his family portrayed. If the Academy could each year send back its men as well fortified with prospects, and the talent to meet them, as is the case with Thomas Hudson Jones, there would be little necessity for a welfare committee for our returning Fellows.

"Professor Lamond, with the two Fellows, Composers Sowerby and Hanson, have covered an extensive itinerary during the summer; Venice, Vienna, Salzburg, Munich, Cologne, Bonn, were visited, where chamber music of an international character, such as at the Salzburg festival, was attended. Opera was heard in Munich, while in Venice and Cologne visits were made to publishing houses where information was obtained enabling the Musical Department to enlarge, in the future, its library of scores. In England, Glastonbury, Gloucester and London were visited and Sowerby rehearsed his new Sonata for presentation at Aeolian Hall, London, on October 10th. The Leeds Festival began on September 30th and prior to it, Professor Lamond and Sowerby attended rehearsal for eight hours a day for a week, and survived!

"Hanson left the party on its way to England for a short visit to Sweden, where he expected to have one of his symphonies performed.

"While in London, Hafner, our first-year architect, got in touch with the director of the South Kensington Museum and engaged his interest in the model of St. Peter's dome that Hafner hopes to execute during his second year. From the general attitude of his reception the South Kensington Museum may acquire the model.

"James H. Chillman, Jr., has written an exceptionally able and illuminating paper on the Palladian Church of the Redentore, in Venice, in which he accomplishes, with not a little success, the acrobatic feat of refuting both the enthusiasts and detractors of Palladio, at one stroke. It is a very acceptable article for publication.

"Schwarz, our first-year painter, has returned from his travels and seems much rejuvenated. He has spent considerable time in the excellent environment of Florence and has made two copies while there.

"Ciampaglia, Griswold, Smith and Amateis are travelling, while Cecere, Hafner, Chillman, Schwarz and Lascari are at present in residence.

"Griswold has devised an excellent scheme (submitted in detail to the Committee on the School of Fine Arts) for a method of issuing tessere, by the Academy, for the important and most frequented villas in Italy, which will enable the office in Rome to omit an almost continual private correspondence with villa owners and save our Fellows from functioning as a bureau of inquiry for the constant stream of scholars passing through Rome."

PERSONALS.

C. DAVIS GOODMAN recently opened an office for the practice of architecture at 14 St. John Street, Suite 34, Montreal, Canada.

FRANCIS CHIAVERINI, formerly 117 Broadway, Providence, R. I., and WESLEY H. BLANK of Boston, Mass., have formed a partnership for the practice of engineering and architecture under the firm name of Chiaverini & Blank, with new offices at 32 Broadway, Providence, R. I.

EUGENE A. STOPPER, Architect and Engineer, has removed his offices from 1507 Arch Street to 510 Fuller Building, 10 South Eighteenth Street, Philadelphia, Pa.

PETER B. SHERIDAN, Architect, 803 Markle Bank Building, Hazleton, Pa., has removed his offices from the third to the eighth floor for the purpose of securing larger offices.

CARL P. BERGER, Architect, has removed his office to 500 Sydenham Building, 1512 Walnut Street, Philadelphia, Pa.

STANLEY BRUCE ELWELL and ROBERT MURRAY BLACKALL have become associated in the practice of architecture under the name of Elwell & Blackall, 44 Bromfield Street, Boston, Mass.

H. GEORGE FINK, Architect, has removed his office from the Republic Building to Suite 301-340 Merrick Building, Miami, Florida.

VERNON HOWE BAILEY

VERNON HOWE BAILEY'S early training was that of a newspaper staff artist. He studied at the Pennsylvania Museum School and the Pennsylvania Academy of Fine Arts, Philadelphia, where he first exhibited in its annual exhibition at the age of seventeen, following which he joined the staff of the *Philadelphia Times*, going two years later to the *Boston Herald* on which for seven years he was actively engaged in the making of character sketches and rapid drawings of the widest variety of subjects, illustrating important news events, including the National Republican and Democratic Conventions in 1900. In 1902 he made a series of drawings of the Coronation of King Edward VII. in London. The large number of drawings of London made during one year's residence at this period came to the attention of Sir Charles Holme, editor of the *Studio Magazine*, who published two series of these drawings and commissioned Mr. Bailey to make two additional sets of drawings of the collections of Oxford and Cambridge. Mr. Bailey's drawings also appeared in London newspapers, including *The Graphic*, *The Dailey Mail*, and *The Express*.

Returning to America in 1902 Mr. Bailey made drawings for leading New York newspapers and magazines and his drawings have been featured in *Harper's Century*, *Scribner's*, etc., magazines for which he has travelled extensively in America and Europe. He has made drawings of a large number of American cities and "American Cities in Pencil," published in *Everybody's Magazine* including the last drawings of old San Francisco made a few days before its destruction in 1906, attracted much favorable attention, as did his drawings of the St. Louis Exposition.

Besides subjects of an architectural nature he has pictured extensively America's great industries and because of his prominence in this field, he was the first artist authorized by the United States Government on its entrance into the war in 1917 to make drawings of the stirring activities in navy yards and munition works. He made the first drawings ever made inside the great Bethlehem steel plant and was the only artist permitted to make drawings with the American fleet at sea. this collection of nearly one hundred has been exhibited in the leading museums throughout the country. For the catalogue of this exhibition of Mr. Bailey's drawings Josephus Daniels, the Secretary of the Navy, especially wrote a foreword in which he expressed his appreciation and thanked Mr. Bailey in behalf of the Navy. A series of prints of these drawings is in the *Muse de la Guerre* in France.

In 1921 Mr. Bailey made an extensive tour of Spain visiting its larger cities and many towns difficult of access in far remote districts. In Madrid he made a number of color drawings of the Palace of the Duke of Alba, also of his great fifteenth century castle of Coca in the Province of Segovia, one of the most notable ruins of Spain, and his entire collection of one hundred and sixty drawings were purchased by the Hispanic Society of America for the permanent collections of the Hispanic Museum where it is now installed.

In addition to his architectural and industrial black-and-white illustrations he has made water-color drawings of many American villas and important estates, and his drawings have been used extensively by leading architects. One of Mr. Bailey's drawings is reproduced on a plate page in this issue.

MOTION PICTURE THEATRE DATA

(*Continued from page 29*)

sense of being tied in with the theatre or a type with draperies, which has, in many instances, been handled very successfully. If this rule is applied in regard to the placing of the picture screen a better proportion will be immediately given to the outer face of the sounding board treatment and the attention of the designer will be called to the impossibility of placing seats in the portions of the house at the sides of the auditorium—at about the fourteenth row from the front, where the seats must be omitted because the screen cannot be seen. This open floor space which is provided is usually highly desirable, for building ordinances require exits at the front of the auditorium and this open space prevents conjestion at the exits.

Where proscenium boxes are desired by the owners they should be carried in with the loge treatment of the balcony. This gives a better composition than detached boxes and produces the effect seen in theatres where the balcony forms a complete horseshoe. It also brings the boxes to such a height that they do not interfere with the view of the screen from seats in the auditorium. Usually three boxes are placed on either side. The entrance to these boxes should be arranged through a foyer back of the grand drape, which often forms the main feature of the proscenium treatment and a good example of which will be seen by reference to the illustration of the Capitol Theatre, New York. This foyer back of the boxes should contain a separate staircase leading up from the auditorium. It is required by many building ordinances and is usually three feet wide. This foyer also is used as a coat room by the people occupying boxes and there should be stairs or some other means of access to the organ loft which is usually placed above this foyer and directly back of the grand drape on each side of the auditorium, the organ being divided into two sections. Where the boxes are connected with the balcony it is possible to usher the people who have seats in the boxes to their places by bringing them up the grand staircase to the mezzanine and down through the balcony. This is regarded as more satisfactory and pleasing to the patrons than when they are ushered down the side-aisle of the orchestra and are then obliged to climb a narrow staircase in the foyer of the boxes.

The heights between the boxes, meaning the first level of each box, should be two feet, and each box is divided into three sections which allows eight inch steppings between the boxes. The steppings in the boxes should be three feet two inches wide. Lately theatre owners have come to see the desirability of providing very comfortable seats in the boxes and for this reason the wider steps are being used. The proscenium treatment in the type of theatre under discussion requires a space measured from the curtain line to the extreme point in the auditorium of about thirty-

(*Continued on page 37*)

QUERIES

In this department PENCIL POINTS *will endeavor to answer questions of general interest pertaining to Architecture and allied arts, giving the best available information from authoritative sources. We desire that you feel free at all times to make use of this service, inviting your co-operation in making the department both interesting and valuable. Should you desire an answer by mail, enclose stamp for reply. Address queries to The Editor,* PENCIL POINTS, *Metropolitan Tower, New York City.*

Question—Will you kindly advise me of the name of some book on the designing of log buildings such as are usually constructed for summer homes on lakes and in the mountains? A. H. R. *Answer*—There is a book entitled "Log Cabins and Cottages, How to Build and Furnish Them," by W. S. Wicks, published by *Forest and Stream*. We believe that the price is about $2.50.

Question—Can you tell me of a book that treats of the specifications for a modern business building? C. H. J. *Answer*—"Modern Building Superintendence and the Writing of Specifications," by David B. Emerson, treats of such a building as you mention. It is published by Charles Scribner's Sons, New York City.

Question—Are there any descriptions and views of Long Island Dutch Colonial houses? R. R. W. *Answer*—A very interesting series on Dutch Colonial Houses in Flatbush (Brooklyn) appeared a score of years ago in *The Architectural Record*. You can probably consult these issues in a public library, or perhaps some architect of your acquaintance has preserved issues of that time.

Question—Will you please tell me where I can obtain a book on the five orders according to Giacomo Barozzi da Vignola and the price? H. L. *Answer*—An English translation of "Esquié's Vignola," one volume, bound, $6.00, is published by Wm. Helburn, New York. Ware's "American Vignola" is in two volumes. Vol. I—The Five Orders, and Vol. II—Arches and Vaults—Roofs and Domes—Doors and Windows—Walls and Ceilings—Steps and Staircases. The "American Vignola" is published by the International Book Publishing Co., Scranton, Pa., at $2.50 for each volume.

THE STUDY OF ARCHITECTURAL DESIGN

(*Continued from page* 18)

interior walls and mean a heavier poché; as before mentioned the big rooms require heavy poché no matter where located.

To really give scale to poché the student should study plans of executed work, measuring the thickness of construction and dimensions of materials, especially in documents of antique, Gothic and Renaissance work, for it is on these that our tradition of design is founded, and modern work, with its steel construction, is apt to make use of very thin walls unless the rooms are studied in section, in which case the walls are furred out to give the reveals our tradition requires.

The indication of the mosaic—and the drawing of the entourage—in the presentation should show the same characteristics as already exist in the poché. Usually the poché is in black ink, both the outline drawn with the ruling pen, and the surface between. All the other lines are drawn with a diluted ink, and should be sufficiently dark so that they will not be lost in the first washes of the rendering after being rubbed in preparing the drawing for rendering—and yet not so dark as to conflict with the poché. Just outside the poché it is well to put a "snap-line"; none of the lines of the mosaic should cross this snap-line.

Figure 181 is a good example of a very simple presentation of a B Class problem—one submitted in the interscholastic competition of 1911-12—a riding school in the country. It is interesting to see how well the forecourt looks, drawn with so very few lines. Figure 182, a portion of the Grand Prix competition plan of M. Janin for a Chateau d'Eau, while very different in scale, shows in the same way how well the presentation of a plan may be studied, and how few lines are necessary if they are in the right place. This plan would give many ideas for the treatment of entourage.

Note—Students will find it well worth while to read the chapter on "Indication" in John V. Van Pelt's book "Essentials of Composition."

CARNEGIE INSTITUTE OF TECHNOLOGY.

THE Summer Course in Architecture at the College of Fine Arts of Carnegie Institute of Technology, Pittsburgh, Pa., under the supervision of Prof. H. Sternfield was very successful. A letter received from the Beaux Arts, New York, shows that Carnegie Tech. headed the list of awards for work done by the students at Summer School.

The Class "A" problem was "An Art Museum in South America," while the Class "B" problem was "An Aquarium," which was to be built on a "Private Estate." The Jury of Awards gave Carol B. Marks a first medal publication, and A. D. Reid a first mention placed publication, these being the highest awards that the Jury can give. The remaining awards were a second medal to F. C. Disque, Carnegie Tech. graduate and present Professor of Architecture at Penn State; Messrs. J. B. Blair, L. L. Broida and E. M. Gearhart first mention, and E. O. Anderson a mention.

Professor Sternfield, a Paris Prize Scholarship Man, deserves a great deal of credit for the showing these men made. With him as head of the department assisted by Prof. D. D. Ellengton, also a Paris Prize Scholarship Man, Prof. Richardson, a Woodman Scholarship Man, the Architectural Department of Carnegie Tech. has one of the best faculties of this kind in the country. Luther Lashmit, graduate of Carnegie Tech., is an instructor in Architectural Design. He is the first Carnegie Tech. graduate to teach in the school from which he graduated.

THE ATELIER MEMPHIS.

THE Atelier Memphis held its election of officers for the new year September 22nd. Everett D. Woods, Massier; H. B. Burnham, Sous-Massier; Harvey Johnson, Captain of Nouveaux.

The Atelier Memphis is starting on its second year with growing enthusiasm and increase in membership. The Beaux-Arts spirit is taking hold and it is hoped that the success of the Atelier in Memphis will inspire the other cities of Tennessee to follow its example.

THE GENESIS OF A RENDERING

(*Continued from page 13*)

the cardboard, the centre touching first and the drawing being allowed to fall into place easily and smoothly. It is necessary for one who has never done it to try this part of the process a few times before good results can be obtained. A clean piece of thin paper is then laid over the drawing and the edge of a flexible triangle is drawn over the paper from the centre outward in all directions to squeeze out all the surplus paste and water. The cardboard should be tacked down on a board to prevent it from curling when the paste dries.

The drawing reproduced here was mounted on smooth cardboard of a cold gray color. I then laid on light washes of water color over the pencil work. Where the sunlight would strike the stucco of the house I put on a light wash of Chinese white. This brought up the contrast lost by mounting the thin paper drawing on the gray cardboard. The color is all on the sunlight parts, there is no color on the shadow parts. The colors used all have a great proportion of yellow in their composition. On the trees a little green and sometimes a little brown-pink was used. Of course if you want an autumn foliage effect brown-pink and carmine and orange may be used with the yellow. But in making a rendering of this kind I use no positive colors, with the exception of orange, occasionally. Orange can be used pure, but must be kept on the higher parts of the picture, such as chimneys, etc. It is so strong that it leads the eye away and, therefore, should not be used pure below the centre of the paper as the effect is unpleasant if the eye is lead below this point. In this drawing I used little, if any, blue, the cold gray of the cardboard showing through the thin paper supplies the blue needed, while the two other primaries are present in the water-color washes used. I may say here that no rendering in which color is used seems complete unless all the three primary colors are present in some form.

THE BOSTON ARCHITECTURAL CLUB.

WITH the co-operation of the architectural departments of the M. I. T. and Harvard, the Boston Architectural Club is making a vigorous effort to strengthen its educational work. Fully realizing the value of the competitive atelier system and recognizing what is generally admitted, that three or more ateliers are desirable for the best results of this system the club is endeavoring to develop a strong third atelier. Knowing that an atelier depends for its strength on its older men. Professors Ferran and Haffner are making every effort to get graduates back to their schools to work side by side with the undergraduates. Three prizes of over one hundred dollars each are to be offered on projets open to undergraduates and graduates not over five years out who do the projets at the school or at the Club. If the club can be made to appeal to these older men they will come to the club to do these projets, then more will come and a strong class of older men will be developed.

The club feels that in order to make a strong appeal to the older men the first step should be to secure for them that prestige which is enjoyed by *anciens* of successful ateliers. This will give the *nouveau* something to look forward to and the *ancien* a greater interest in the atelier. It is a prime requisite for *esprit de corps* in an atelier. The Education Committee of the club therefore has made a number of recommendations along this line, including the recommendations that only an *ancien* shall be eligible for the office of *massier* or any other office, that only *anciens* may vote for officers of the atelier, that to become an *ancien* a student shall have worked two years in the atelier and have entered Class B plan. It is also recommended that *anciens* shall cease to take part in atelier affairs after reaching the age of thirty, and that a student working in Class A, though he has not spent two years in the atelier, shall still enjoy the prestige of an *ancien*. This earnest and thoughtful effort on the part of the Boston Architectural Club provides matter for consideration by the members of clubs where the importance of having the older men in the atelier may not have been fully realized or at least not effectively acted upon.

FINE ARTS FEDERATION.

AT THE annual meeting of the Fine Arts Federation, the following officers were elected for 1922-1923: Arnold W. Brunner, president; Charles Dana Gibson, vice-president; William Laurel Harris, secretary. The directors elected were: Arnold W. Brunner, J. Monroe Hewlett, Egerton Swartwout, Douglas Volk and Adolph A. Weinman.

THE first issue of the Art Center Bulletin appeared in July, 1922, and contains eight pages of interesting art news of the seven constituent societies: Art Alliance of America, Art Director's Club, American Institute of Graphic Arts, New York Society of Craftsmen, Pictorial Photographers of America, Society of Illustrators, and the Stowaways.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of PENCIL POINTS, published monthly at Stamford, Conn., for October 1st, 1922.

State of New York,
County of New York, ss.,

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared W. V. Montgomery, who having been duly sworn according to law, deposes and says that he is the Business Manager of the corporation publishing Pencil Points, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of — *Post office address*

Publisher, The Pencil Points Press, Inc., 19 East 24th St., N. Y. City.

Editor, Eugene Clute, 19 East 24th St., N. Y. City.

Managing Editor, None.

Business Manager, W. V. Montgomery, 19 East 24th St., N. Y. City.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent. or more of the total amount of stock.)

The Pencil Points Press, Inc., 19 East 24th St., N. Y. City.
Ralph Reinhold, 19 East 24th St., N. Y. City.
F. W. Robinson, 19 East 24th St., N. Y. City.
E. G. Nellis, 19 East 24th St., N. Y. City.
Marion S. Carpenter, 920 Fifth Avenue, N. Y. City.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent. or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is..... (This information is required from daily publications only.)

W. V. MONTGOMERY,
Business Manager.

Sworn to and subscribed before me this twenty-second day of September, 1922.

[SEAL.]

G. H. SYKES,
Notary Public.
My commission expires March 30, 1924

THE SPECIFICATION DESK

A Department for Specification Writers

MISCELLANEOUS ITEMS OF CONSTRUCTION

PART VIII.

By Otto Gaertner.

In this series of notes Mr. Gaertner of the staff of McKim, Mead & White, Architects, will treat of a number of the minor matters of construction that are troublesome unless the architect happens to have met a similar problem previously—matters of a more or less special nature.—Ed.

Garages—This is a subject upon which volumes can be written but only a few general considerations can be discussed in an article of this kind. Perhaps later we can go into more detail. Garages are of several types, non-fireproof, private and commercial, as well as fireproof private and commercial. The commercial garage may include a service station or it may include a sales department. Generally speaking, the great increase in the number of automobiles in use and the enforcement of zoning and building laws, makes it necessary to give more care to developing the types of garages. They must have a good appearance at a reasonable cost, be planned for convenience to save time and labor, and as far as possible be of fireproof or fire-resisting construction. Forgetting for the moment the private garages, although many of the facts apply to them also, we will give attention to the types of a commercial character, remembering that a general discussion is of service not only to the draftsman but to the specification writer as well.

They must be designed so that the minimum number of square feet of area are needed to store a maximum number of motor vehicles and at the same time permit the utmost unhampered movement of the cars to and from their storage places. The buildings should be fireproof, even if this is not mandatory according to local laws, as is the case in most cities and progressive communities. Broad spaces with as few corners as possible for the accumulation of combustible rubbish are best. There should be ample light and ventilation. Ample light creates an incentive to keep all nooks and corners clean, tends to prevent accidents and consequent law suits and also saves time and labor by providing good light for examining, overhauling and repairing the vehicles. Ample ventilation permits the easy removal of the gases discharged by the exhausts of the automobiles and the gases of vaporized gasolene used for cleaning purposes or removed from parts of the vehicles. The gases from the exhausts, in addition to being offensive, are a dangerous cause of explosions and sometimes cause fatalities due to asphyxiation. In smaller quantities they destroy the health and energy of the people employed where they occur.

In addition to car storage space and working space, other spaces must be provided depending upon the particular use to which the building is to be put. It may be a building to be used for manufacturing parts and assembling cars, with storage facilities for both before they are distributed to the main territorial service stations which in turn distribute to the secondary service stations that supply local agents and repair shops. If the main territorial service station is near the border or sea coast it may need facilities for handling the foreign export departments of the company with the necessary show-rooms and office. Railroad freight sidings are often essential. The secondary service station must have considerable facilities by way of offices, etc., for handling visiting local agents from out of town and must have ample show-room space. In this type of building, most of the repair work of parts and accessories is done which cannot be done in the service stations of the local agents and ordinary repair shops. Often such agents and shops find that the company's service station can make such repairs or replacements of parts cheaper than they can themselves, so it increases the volume of business in the territorial service station. Although it is not common, some of these territorial service stations also have departments for taking care of batteries, supplying gasolene, oil and grease and for taking care of tires, but generally these departments occur in the local agent's service stations and ordinary garages.

For all these types of buildings, property on a street corner is most desirable as separate entrances are most easily provided for the office and show-room space and for the storage and service parts of the building. Unless the building has a wide frontage this cannot readily be done on an inside plot without sacrificing the space for a wide driveway adjacent to the show-rooms and offices and the traffic entering or leaving the building interferes with the pedestrians going to and from the show-rooms. It may also curtail the necessary parking space near the show-room entrance for the motor cars of the people doing business there. A sloping site is often desirable, especially if it is corner property, since in a low building it enables the service and repair department to be located in the basement or on the floor above the ground floor where the offices and show-rooms occur. The service and repair department can then be reached without sacrificing either the space for a freight elevator and its approach or for a ramp. Access to a back street or alley is also a great convenience.

Also, location has been found to have much to do with successful business. Obviously, a property on the main thoroughfares adjacent to both the business and residential parts of the city is most desirable for local agents' show-rooms and service stations. If possible, the property should permit future expansion for prospective growth of the business and this should also be considered in planning the building itself both for the future need of changing about departments and for its future increase in area or height. Property that permits large window areas on all sides also has advantages. Buildings of this nature should have more glass than solid wall.

The distance between floors will be governed by the height of the building, but sixteen feet and preferably more should be allowed for the show-room floor. Automobiles do not make as favorable an impression when shown in a low or cramped room as when shown in the open. It is advisable to increase the entire story height in excess of the actual need so as to permit the introduction of a mezzanine floor behind the show-rooms and sales offices. The show-room should have large plate glass windows with ample space behind them so that the cars can be stood in such a way as to permit the whole of each car to be seen by the passerby and a large, well-lighted room makes a better background than dark mahogany or other material. If the window must have a background it should be light in color except in the unusual case of very light colored cars. Of course, the higher the story the farther back from the window the light will penetrate so that less artificial light is needed.

If a building is designed on the unit system so that it may be increased by adding more units side by side, or on top, there are likely to be heavier piers between the windows and it may not be feasible to have only the end piers heavy and the others light as is often done. Whenever possible, additional lighting should be provided by means of skylights, but if such skylights occur over the storage space for finished cars, care should be taken by providing ribbed, prismatic or ground glass which will not permit the hot sunlight to blister the finish on the cars. Eleven or twelve feet is a good height for the upper stories which should not be too low for proper light and ventilation.

The spacing of the columns is another item to be considered. While twenty and twenty-one feet on centres is a good and economical spacing structurally, it is not so good for a space where motor vehicles are to be moved about. A thirty-foot spacing or over is much more economical in the maintenance of the businss and avoids accidents to the cars. Also, cars may be stored closer together and much time is saved in getting them in and out. Therefore, it is well to study this part of the prop-

erty from more than one point of view and if necessary increase the initial cost by increasing the column spacing if a saving in overhead is assured. In a one or two story building this initial cost will not be greatly increased and in such a building even fifty or sixty foot spans can readily be provided at a slight increase in cost, trusses being used instead of girders.

MOTION PICTURE THEATRE DATA.

(*Continued from page* 33)

two feet, measuring on the axis of the auditorium. The curve and projection of this feature depends on the sight lines which are established as previously described. For a house one hundred feet in width a stage opening fifty feet wide is very desirable. Other dimensions should be proportioned to this. The height of the opening, meaning the architectural height, can be what the designer wishes, but there is a girder or a truss placed, as a rule, twenty-eight feet above the stage level. This forms the constructional top of the stage opening and from this girder upward is a wall back of which are stored the various curtains. This height is established on the assumption that the gridiron which carries all the necessary apparatus in connection with the flying of the scenery, is fifty-seven feet above the stage. This provides ample height for the use of any set. It is important in this connection to bear in mind that the valence which is employed to cover the space between the actual top of the stage opening and the arch of the architectural treatment must be proportioned to the height of the curtain and that if the arch is made very high, the valence becomes too heavy and dwarfs the opening and injures the general effect of the treatment in the auditorium.

From the architectural arch springs the sounding board which is, without doubt, one of the most important features of the theatre. Although numerous attempts have been made to eliminate this curved surface, the old method of providing this big arch is the most successful one, not only from a design standpoint but from the practical standpoint of acoustics. Designers have often striven to get away from the usual auditorium treatment which embodies this arch and I know of some instances where the omission of the sound board has been the cause of great regret. In fact, one of the most important houses in the United States, a legitimate house and on a large scale, has given endless trouble. In many cases where a theatre has been built without a sounding board and complaints have come in from the general public, the owners have attempted to remedy the condition by suspending a wooden sounding board from the gridiron over the stage. In the smaller houses this is sometimes effective to a degree but in the larger ones it may be regarded as highly unsatisfactory. The most successful proscenium arch that I have seen to date is that of the Capitol Theatre, New York. One of the minor matters of design which it is well to note in connection with this proscenium arch is the manner in which the perforations to take care of the overhead ventilating system are arranged. The system employed for ventilation in this theatre is the downdraft system, which, I believe, is the most desirable for theatre ventilation. Referring to the illustration of Loew's State Theatre, New York, it will be noted that electric lighting has been provided back of the beam on the face of the proscenium arch to illuminate the wide front surface. This is highly desirable though in this particular case it is not so necessary as in the Capitol Theatre where this form of lighting brings out the more interesting treatment of this part of the building. In providing for this lighting it is essential to bear in mind that the space or trough must be at least twelve inches wide and that any treatment used on the face or corner of this proscenium must project sufficiently to permit the trough to continue to the top of the cornice or impost on the spring line of the arch. I have noted that in some instances on account of this matter not having been given any thought the trough could not extend the full length of the arch and the result is a failure.

PUBLICATIONS OF INTEREST TO THE SPECIFICATION WRITER.

Any publication mentioned under this heading will be sent free, unless otherwise noted, upon request, to readers of PENCIL POINTS *by the firm issuing the publication. When writing for any of these items please mention* PENCIL POINTS.

Beautiful Homes—Attractive booklet illustrated in colors giving hints on wood finishing and interior decoration, covering all the rooms of the house. Also complete wood finishing specifications. 6½ x 8½ in. 30 pp. Berry Brothers, Inc., Detroit, Mich.

Stage and Theatre Lighting—Illustrated catalog covering all equipment required, together with much useful information on the subject. 6 x 9 in. 130 pp. Universal Electric Stage Lighting Company, 321 West 50th Street, New York.

Carborundum Anti-Slip Tile—Illustrated booklet with sectional drawings showing application of Carborundum treads under varying conditions. 6½ x 8½ in. 24 pp. American Abrasive Metals Company, 50 Church Street, New York.

Artists' Colors and Supplies—Catalog and price list covering complete line. 6 x 9 in. 52 pp. Winsor & Newton, Inc., 31 East 17th Street, New York.

The G & G Telescopic Hoist—Fully illustrated catalog with specifications, quarter inch scale drawings of all models and special material-handling section. 8½ x 11 in. 20 pp. Gillis & Geoghegan, 537 West Broadway, New York.

Architectural Brass and Bronze Work—Illustrated portfolio showing many installations of various types of work. 9 x 12 in. 80 pp. Penn Brass and Bronze Works, 105 Dobbin Street, Brooklyn, New York.

Copper—Its Effect Upon Steel and Roofing Tin—Scientific treatise on the subject showing exhaustive comparative tests of roofing materials. Fully illustrated. Specifications. Plates showing details for tin roofing and sheet metal work. 8½ x 11 in. 40 pp. American Sheet and Tin Plate Company, Frick Building, Pittsburgh, Pa.

Brixment for Perfect Mortar—Booklet with frontispiece illustrating residence designed by Mr. Charles A. Platt. Complete information regarding Brixment mortar. 8½ x 11 in. 16 pp. Louisville Cement Company, Louisville, Ky.

Store Fronts in Architectural Terra Cotta—Profusely illustrated brochure with many sectional drawings and full-page plates. 8½ x 11 in. 50 pp. New Jersey Terra Cotta Company, Singer Building, New York.

Ventilation—History of ventilation, complete engineering data, capacity tables, installation drawings and specifications for installing in various types of buildings. 8½ x 11 in. 72 pp. Moline & Heat, Moline, Ill.

Rookwood Pottery—Loose-leaf portfolio showing applications of Rookwood tile to various types of rooms in different classes of buildings. 9 x 12 in. 60 plates. Rookwood Pottery Company, Cincinnati, Ohio.

Kawneer Store Fronts—Four valuable booklets with sheets of full-sized details showing store front construction suitable for all types of buildings. The Kawneer Company, Niles, Mich.

Hoffman Casements—Loose-leaf portfolio with many full-page plates showing details of casement window construction. Full-sized detail sheets 24 x 30 in. 8½ x 11 in. 34 plates. Andrew Hoffman Manufacturing Co., 28 East Jackson Blvd., Chicago, Ill.

The Kelsey Systems—Collection of six interesting booklets on the subject of heating and ventilation. Illustrated. Specification data. Kelsey Heating Company, Syracuse, N. Y.

Imperial Super-Smokeless Boilers—Loose-leaf portfolio showing modern fuel saving equipment. Engineering data. Blue prints. Tables of capacities. 8½ x 11 in. 32 pp. Utica Heater Co., Utica, N. Y.

Sanitary Hospital Apparatus—Complete illustrated catalog showing hundreds of engravings of all types of equipment required in modern hospitals. Should be in every library. 9 x 12 in. 132 pp. James B. Clow & Sons, Chicago, Ill.

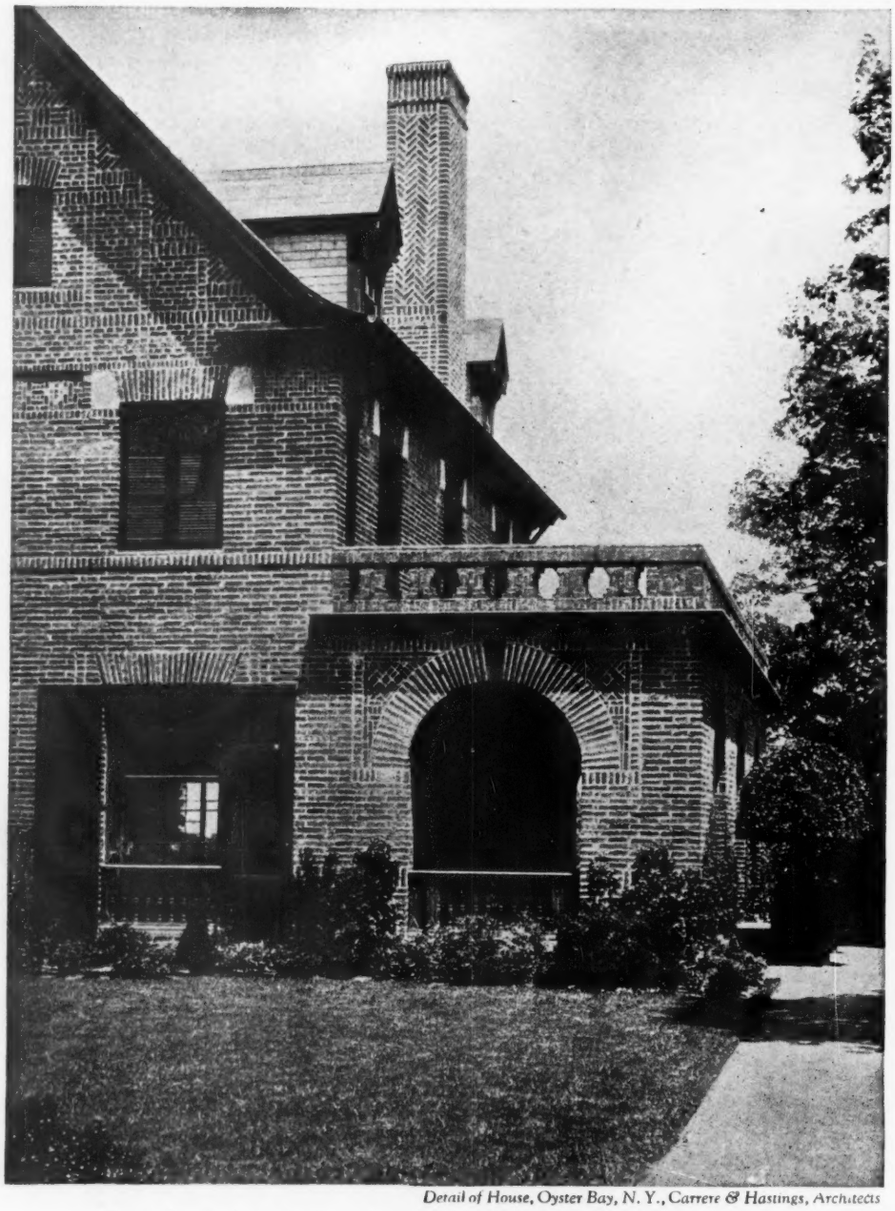
Catalog No. 295, issued by the B. F. Sturtevant Company, treats on the subject of Air Washing, describing equipment suitable for installation in factories, theaters and other types of buildings where air conditioning is required. 8½ x 11 in. 44 pp. The B. F. Sturtevant Company, Hyde Park, Boston, Mass.

The Kernerator—Complete illustrated booklet describing the Kerner incinerators for disposing of garbage and other refuse in residence and apartment buildings. Complete specification data and blue prints. Kerner Incinerator Company, 596 Clinton Street, Milwaukee, Wis.

X-Ray Reflectors—Catalog 22 showing complete line of equipment suitable for store windows, show case lighting, factory lighting and residences. Specification data. 8 x 10 in. 40 pp. National X-Ray Reflector Company, 235 West Jackson Blvd., Chicago.

Distinctive Wall Paints—Booklet covering treatment of walls in commercial buildings, hotels and institutions. Specifications. 5 x 8 in. 16 pp. U. S. Gutta-percha Paint Company, Providence, R. I.

Color Harmony in Floors—Booklet covering subject of floor treatment from entirely new angle. Maple Flooring Manufacturers Association, 1082 Stock Exchange Building, Chicago, Ill.



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Detail of House, Oyster Bay, N. Y., Carrere & Hastings, Architects

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